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# 1. Introduction and Summary

The Independent Business Network is a passionate advocate of free trade and believes that the United Kingdom's exit from the European Union marks a significant opportunity for the hundreds of thousands of family-owned and run businesses that are the backbone of the economy.

Free markets and free trade, the basis of classic liberal economics as espoused by Adam Smith and Ricardo, create benefits for economic growth, wealth creation, and the efficient allocation of capital through a focus on comparative advantage. Competition itself has proven to be the most successful system for wealth creation and the societal benefits that flow from this. The backcloth to this has been property rights and the rule of law. Taken together, these attributes have been fundamental to the success of British, and more generally Western business. China is flouting these core tenets of free market economies, threatening the very existence of the post-war international rules-based system.

The UK has mechanisms for dealing with this threat whilst simultaneously maintaining free markets. It is able to prevent hostile takeovers through the Takeover Panel which is able to seek undertakings<sup>1</sup>. The Competition and Markets Authority can look at the impact on competition<sup>2</sup>. The Secretary of State, under the Enterprise Act<sup>3</sup>, can look at key areas of public interest including financial security, media plurality, public health emergency provision, and national security. The National Security and Investment Act will require scrutiny of acquisitions in key categories<sup>4</sup>. The new Trade Remedies Authority also has the capacity to look at unfair trade practices, such as dumping, and should cast its net wide in assessing the detrimental impact of foreign state owned enterprises on free markets<sup>5</sup>. The problem is that the Government, and these bodies, have demonstrated no appetite to actually use these tools.

Having left the EU, new export markets can be opened, greater support from the government can be provided to help those with the potential to export who are currently not doing so. The UK now has the opportunity to facilitate access to finance that can inject economic dynamism into British industry, as well as running a tariff schedule that benefits the consumer and promotes competition.

The IBN is concerned about the growing threat that China poses to this golden opportunity, and that overreliance on a regime which is at its very core based upon the suppression of free enterprise, and a fundamental worldview of protectionism, risks destabilising the significant strides we expect to be taken as the United Kingdom emerges from the pandemic.

- 1 The Takeover Panel
- 2 Competition and Markets Authority GOV.UK (www.gov.uk)
- 3 Enterprise Act 2002 (legislation.gov.uk)
- 4 National Security and Investment Act 2021 Parliamentary Bills UK Parliament
- 5 Trade Remedies Authority GOV.UK (www.gov.uk)

This research paper aims to highlight sectors of the UK-China relationship which are totemic of the growing reliance that British businesses have on the People's Republic of China, and the extent to which this can be accredited to the Chinese Communist Party 's flagrant disregard for the Rules Based International Order. It is the belief of the IBN that it is perfectly compatible with a doctrine of free trade for the UK government to take interventionist measures when a systemic competitor such as China is a) using unfair trade practices to skew trade flows and, b) when the nature of that competitor's ideological regime is such that being beholden to it is a national security risk. The four categories of exploration are: the UK's ability to respond to biological disasters such as the Covid-19 pandemic, its aerospace sector (owing to the dual military use of many innovations in this sector), those electronics which underpin the technologies of Industry 4.0, and telecommunications equipment upon which the continued existence of the British economy rests.

The current Conservative government appears keen to distance itself from the Cameron doctrine of blindly pursuing a "golden era" of relations with the Chinese Communist Party, Chinese investment, and Chinese trade<sup>6</sup>. The pandemic has made it abundantly clear that China is not an ally with whom the UK can consider undertaking meaningful cooperation. As concern increasingly mounts about the origins of the Covid-19 pandemic, the behaviour of Chinese officials in late 2019 and the early months of 2020. For example, in March 2020 China held the presidency of the UN Security Council but actively prevented discussion on the growing international catastrophe, with officials saying that; "We don't have any plans to discuss the coronavirus before the security council. It is really beyond the scope of the Security Council. It is a public health issue." This is of course on top of recent news reports that the World Health Organisation is being prevented by China from resuming any inquiry into the Wuhan lab leak theory.

Similarly, we have now been introduced to harrowing images of Uhygur Muslims in the Xinjiang province of China, blindfolded and knelt before railway carriages. The UK must be more strident in demanding that the UN Commissioner for Human Rights, Michelle Bachelet be allowed to visit the province immediately.

The recent crackdown on Tiananmen square vigils<sup>9</sup>, reminds the West that the current governing officials of China are members of the same political party once led by Deng Xiaoping and Chairman Mao, and are the inheritors of a regime that has presided over the deaths of millions of people. The National Security Law<sup>10</sup> introduced in Hong Kong reminds us that the United Kingdom has a direct responsibility for resisting the imperial ambitions of the Chinese Communist Party. Our responsibility to Hong Kong must remain steadfast in the face of diplomatic attacks.

Likewise, building a stronger presence in the Indo-Pacific with members of the ASEAN trading bloc, such as the Philippines and Malaysia, will require greater attention is paid to Chinese expansion in the region. The creation of artificial islands in the South China Sea,

- 6 China, Britain to benefit from 'golden era' in ties Cameron | Reuters
- 7 <u>Don't Let China Hijack the UN Security Council | The National Interest</u>
- 8 COVID-19: WHO chief proposes second China probe into virus's origins including audit of Wuhan labs | World News | Sky News
- 9 Hong Kong vigil leader arrested as 7,000 police enforce ban on Tiananmen anniversary protests | Tiananmen Square protests 1989 | The Guardian
- 10 'They can't speak freely': Hong Kong a year after the national security law | Hong Kong | The Guardian

which puts at risk nearly £100 billion of UK trade<sup>11</sup>, is the most high-profile example of this. But it is happening in conjunction with incursions of combat aircraft into the sovereign airspace of neighbouring countries,<sup>12</sup> and regular skirmishes at the border with India.

China is state capitalist and has a clear disregard for the rules based international system. Within this, since its admittance into the global trading arena at the turn of the century, it has taken serious strides to undermine the international trading system and show that it is not participating in capitalist markets or in free trade.

Firstly, its continued support for State Owned Enterprises gives its domestic companies an unfair advantage over foreign competitors. This is the case in China's internal market, as well as in its export markets. Currently SOEs account for 40% of the market capitalisation of Chinese companies. <sup>13</sup> It is particularly pressing as of 2019, when China finally surpassed the US as having more companies in the Fortune 500. <sup>14</sup> It Industrial Strategy, and agendas such as Made in China 2025 <sup>15</sup> and China Standards 2035 <sup>16</sup> are explicit in their intent to use government intervention as a means to muscle out foreign competition in the Chinese market.

China has effectively nullified the previous system of international technical standards, which saw private enterprises coordinate dimensions and interoperability in a voluntary nature. Instead, China has made use of bodies such as the ISO to upload its own standards, devised by the Chinese Communist Party and SOEs, to the global level. Moreover, it has posed a fundamental challenge to the multilateral nature of technical standards setting. Projects such as the Belt and Road Initiative<sup>17</sup> are an attempt to fracture international trade and develop hegemonic trade routes for itself that are impenetrable for those western states following different standards.

China has ignored the very conditions upon which it was allowed admittance to the WTO<sup>18</sup>. Its admissions protocol is routinely undermined, as tracked by the USA, and its insistence that it still be granted 'developing nation' status is indicative of this fact. Non-tariff trade barriers remain a serious impediment to any true market entry for UK companies, and it is likely to become even more exclusionary as the nation moves towards China Standards 2035 and a policy of "dual circulation"<sup>19</sup>. Both of which effectively disbar any true competition from western competitors and restrict access to the over 1 billion Chinese consumers.

<sup>11</sup> UK should establish military presence in South China Sea says report (ukdefencejournal.org.uk)

<sup>12</sup> Malaysia – and no Southeast Asian nation – should be bullied by China (lowyinstitute.org)

<sup>13</sup> Has China given up on state-owned enterprise reform? (lowyinstitute.org)

<sup>14 &</sup>lt;u>PC-05-2021.pdf (bruegel.org)</u>

<sup>15 &</sup>lt;u>Is 'Made in China 2025' a Threat to Global Trade? | Council on Foreign Relations (cfr.org)</u>

<sup>16</sup> The China Standards 2035 Plan: Is it a Follow-Up to Made in China 2025? (china-briefing.com)

<sup>17</sup> China's Massive Belt and Road Initiative | Council on Foreign Relations (cfr.org)

<sup>18</sup> WTO | Accessions: China

<sup>19</sup> What we know about China's 'dual circulation' economic strategy | Reuters

# 2. The perils of trade dependencies

Chinese policymakers view trade dependencies as "an ace in Beijing's hand"<sup>20</sup>. This is indicative of the Chinese Communist Party's fundamentally mercantilist worldview, and how they see an opportunity for gains to be made that extend beyond simple commercial ones. It has shirked its side of the "diffuse reciprocity"<sup>21</sup> transaction and prefers to deploy a zero-sum approach to trade, rather than the comparative advantage approach of Western economies. 'Realism', with its fundamental emphasis on conflict being the natural state of affairs between states, has deep roots in China's intellectual worldview and it therefore seems impossible to comprehend that the People's Republic ocan be encouraged into reform<sup>22</sup>.

Trade dependencies, and nations' concerns about trade dependencies, have historically centred around three key areas: food, water and energy. This was most clearly seen during the Cold War with American concerns over reliance on Soviet oil and gas imports in the 1970s and 1980s. As hostilities heightened, and politicians on both sides looked anywhere for an upper hand, even the flow of energy become a potent foreign policy weapon.

Of course, this can be taken too far and unless intelligently implemented, such concerns can fall prey to vested interests and harmful protectionism. The Treaty of Rome is an example of this<sup>23</sup>. It baked into the very heart of the European project a fanaticism towards 'agricultural exceptionalism'<sup>24</sup> which continues to harm European consumers in 2021.

In the era of globalisation, trade is now more intimately connected to the national security of nation states than previously. The importation of some goods and services relies on nations allowing others to perform certain functions that are critical to the well-being of its citizens, and over which it cedes direct jurisdiction. This is when trade becomes an exogenous influence on the delicate equilibrium of a nation's wellbeing.

For a country to allow its industries to be exposed to fierce competition from external parties, and thereby altering the relative strength of home-grown companies and their viability in their domestic market, requires the liberalising country to be certain of the stability of trade flows. A country must decide whether the price and quality benefits of free trade are not outweighed by the potential for an external force to end said trade unilaterally and swiftly.

As a result, the bonds of trust that exist between nations are the vital lubricant of this exchange. Theories such as democratic peace theory and classic liberalism, note that when

<sup>20</sup> China's ban on rare earths didn't work on Japan and won't work in the trade war with the US | South China Morning Post (scmp.com)

<sup>21</sup> Reciprocity in International Relations on JSTOR

<sup>22</sup> The tragedy of offensive realism: Classical realism and the rise of China - Jonathan Kirshner, 2012 (sagepub.com)

<sup>23</sup> Treaty of Rome (europa.eu)

<sup>24</sup> Ploughing-the-wrong-furrow.pdf (iea.org.uk)

an exchange of goods is underwritten by a shared value set, neither side begrudges the other for gaining a competitive advantage over it.

Those with similar institutions, regional outlooks, accountability to electorates, and economic profiles, can adjudge – with a relative degree of certainty – the objectives and motivations of those with whom it chooses to trade. In this sense, Deutsch's theory of a 'security community' is an apt template – albeit one designed to address the more drastic scenario of conflict than disrupting flows between trading partners<sup>25</sup>. The premise that State A makes unilateral concessions to State B, which if reciprocated are mutually beneficial, but if exploited are fundamentally damaging to the relative position of State A, is the basis out of which the post-war, transatlantic relationship grew. The "dependable expectation"<sup>26</sup> of continued trading relations, free from the risk of being undermined by insurmountable geopolitical tensions, allows for a greater degree of vulnerability to be presented to one another.

An increasing proportion of the globe have graduated into this community, especially since the fall of the Soviet Union in the 1990s and the unipolarity years of Western liberal dominance. However, for the reasons set out in section 1, China has yet to join this community. As such, it is unpalatable for the UK to continue to extend the same trading concessions to China that it currently offers the United States or India.

In December 2020, its Export Control Law came into effect. The law formalises, and weaponizes, China's ability to restrict what it exports. Indeed, Article 48 of the law states such measures will be used if Chinese "interests" are undermined by the actions of another nation's government<sup>27</sup>. We have also seen China look to exploit the trade dependencies of New Zealand and Australia in a manner which has caused fractures in the Five Eyes alliance.

<sup>25</sup> Political Community and the North American Area (degruyter.com)

<sup>26</sup> Introduction: Security Communities and International Relations | SpringerLink

<sup>27</sup> https://fas.org/sgp/crs/row/IN11524.pdf

# 3. Topline Analysis of UK Trade with China

It has been well documented in recent weeks that China has become the UK's leading import market, accounting for 16.1% of the UK's imports in Q1 of 2021.<sup>28</sup> This has heightened concerns that the UK could be sleepwalking into the kind of trade dependency discussed in Section 2 and would come with serious implications for British independent foreign policy and freedom of action, especially as it continues its "tilt"<sup>29</sup> towards the Indo-Pacific. This tilt is a welcome move which will open new possibilities, as well as allowing us to protect UK business interests in the region but is also one likely to put the UK at loggerheads with the People's Republic of China more frequently.

The Independent Business Network has conducted a thorough analysis of the trade data in the hope that, by highlighting those areas where coercion could be applied, British policymakers are able to circumnavigate any future trade disruption.

The data used in this study has been drawn from UK Trade Info, the statistics branch of HMRC which collates all import and export data from British customs. Whereas previous examinations in this area have used the Harmonised System of product categorisation, which allocates every import a 6-digit code by which it can be identified, the IBN has made use of the Combined Nomenclature system of product categorisation. This adds another level of specificity to the categorisation of imports and allows for the data to be even more granular.

#### 1. In 2019, there were over 50,000 products imported almost exclusively from China.

In 2019, the last complete year for which we have trade statistics pre-pandemic, there were 116 HS6 product categories for which China accounted for at least 70% of imports, and in most cases 100%. Such a situation is indicative of near complete reliance and a lack of any feasible international alternative that could be built up.

Through FOI requests, the IBN has been able to discern that within these 116 product categories, there were 52,017 individual product descriptions entered. This is across a broad range of product types, ranging from mercuric batteries as found in devices such as hearing aids, to aniline salt used in the manufacture of dyes.

#### 2. These 50,000 products are imported by approximately 28,000 companies who risk business disruption.

This figure has been calculated from the data collected by HMRC through its CHIEF system (Customs Handling of Import and Export Freight), which records the names of

<sup>28</sup> The impacts of EU exit and the coronavirus on UK trade in goods - Office for National Statistics (ons.gov.uk)

<sup>29</sup> Dominic Raab on Twitter: "Just landed in #Vietnam at the start of a visit to South-East Asia visit to discuss the UK's Indo-Pacific tilt. Looking forward to discussing trade, security and tackling challenges such as climate change, COVID-19 & COVI

companies importing products, and the product code of what they are bringing in.

We are able to determine that approximately 28,000 companies imported at least one of the items for which the UK is almost exclusively dependent upon China. Some of these companies are likely to be large chains with dedicated teams to manage supply chain disruption. However, it is apparent that an overwhelming number of those enterprises, whose business models are dependent upon importing these goods, are family run and as such would be unable to mitigate against serious disturbances.

#### 3. The UK's primary import partner is China in at least 25% of product categories.

A conservative analysis of CN8 codes suggests that China is the primary import market for the UK in at least 25% of all products, whilst a more realistic estimate is that this figure is far closer to 30%. In most cases China's position as the primary import market is growing. The longer that this trend continues, the more the UK is sleepwalking into a position of complete dependence, and will find that its ability to engage with alternative suppliers of the same product becomes more challenging.

#### 4. 55% of all product classifications have seen an increase in China's import market share since the arrival of the Covid-19 virus from Wuhan.

Comparing the import data of 2019 with the import data of 2020, we can see that the UK has increased the proportion that it imports from China in nearly 2/3 of products. This would suggest that the Covid-19 pandemic, and the western world's ramshackle response to it, has expedited many nations' growing reliance on China. The UK is clearly not exempt from this pattern, and in many instances has found itself having to forego long-term supply chain security, in preference for the immediate securing of goods.

#### 5. China has been the UK's leading import partner for four consecutive quarters.

As has been mentioned earlier, in Q1 of 2021 China held 16.1% of the UK's import market share and was our leading source of imports. However, this was not the first quarter where China has been in poll position. In fact, since the onset of the pandemic at the end of Q1 2020 China has been the lead import partner for four consecutive quarters.

It has not just increased its share of the UK market but the total value it exports as well with a year-on-year increase of nearly £6billion between Q1 2020 and Q2 2021. As shown in the table below, there is an irrefutable causal link between the Covid-19 pandemic and the primacy that China now holds in the UK trade profile. The release of the coronavirus on the world has accelerated the economic dominance of China and has benefitted the People's Public of China significantly.

## 6. Nearly half of the UK's Chinese imports come from just 649 products. The UK is CRITICALLY dependent upon China for these 649 products, meaning there are few viable alternatives.

Across 2020/2021, 649 CN8 codes, just 12% of all, were critically dependent upon China. Signifying that at least 75% of UK imports of that product have arrived from the People's Republic of China. However, whilst the number of products that the UK is critically dependent upon China for, is small, their volume is significant. These products account for an import value of £28.6 billion out of the £59.2 billion total brought in from China, nearly half of all UK imports come from these 649 CN8 codes.

# 4. Healthcare and Biosecurity Disaster Relief

Healthcare and biosecurity are now national security issues in the midst of a public health emergency.

As discussed earlier, Chinese negligence stems from an apathetic approach to the rules of the law based international system. Having faced few sanctions for previous misdemeanours, the Chinese Communist Party has been free to make internal decisions without due consideration as to their impact on the rest of the international society. SARS-CoV-2 is testament to such an approach.

As countries across the globe seek to tackle the immediate health crisis, many have simultaneously strived to expel China from crucial supply chains. Fortunately, the UK Government has been one of the most forthright in this endeavour. However, analysis of HM Revenue and Customs Trade Data reveals how futile such attempts have been in the critical health sector, and the serious shortcomings of 'Project Defend'.

In June last year, HMG released a list of 183 medical health products. Entitled the "disaster relief list," it laid out the CN8 commodity codes of those products deemed vital for the fight against the Covid-19 pandemic, and the continued provision of which was of the utmost importance. These nationally prioritised products were thence provided to the World Customs Organisation in collaboration with the World Health Organisation, who recognised it as the UK's "national list of medical supplies". <sup>30</sup> As such, it is axiomatic to assume that, as a collective, these 183 products represent those items without which the UK would encounter severe crisis in its health sector. As a package, they are the vital components upon which the United Kingdom has combatted, and will continue to combat, this and future pandemics. They will henceforth be referred to as the UK's "disaster relief" commodities, and includes products such as ethanol disinfectants, vaccines, diagnostic test kits, face masks, PPE, and adhesive dressings.

#### The UK is chronically dependent on China for 'Disaster Relief' imports

The primary message that must be understood from a longitudinal assessment of the UK's import data on these products, is that the Covid-19 pandemic has increased British dependency upon China. As recently as the 2018/2019 financial year, China was but a minor

30 <u>hs-classification-reference\_edition-3\_en.pdf</u> (wcoomd.org)

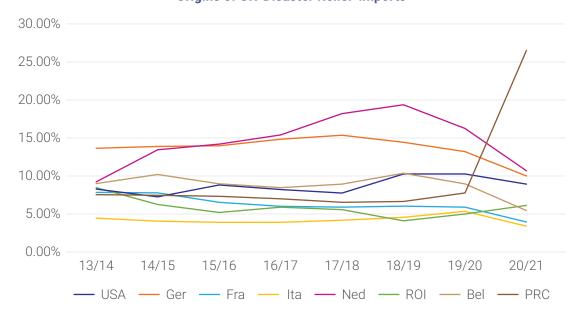
player in providing the UK with these disaster-relief products. Its share of the British import market was at just 7% - similar to the likes of Ireland and Italy. The year before the pandemic, China ranked 5th in the provision of disaster relief equipment, behind the US, Germany, the Netherlands, and Belgium. However, since the onset of the pandemic in March 2020, this position has been truly upturned.

By the end of March 2021, China had cemented itself as the primary source of disaster relief equipment in the UK import market. Its share has skyrocketed to 26.55% of the import market, more than the entirety of the combined value held by the US, Germany, India, Japan, and France, and up from just 7.71% in the year prior to coronavirus.

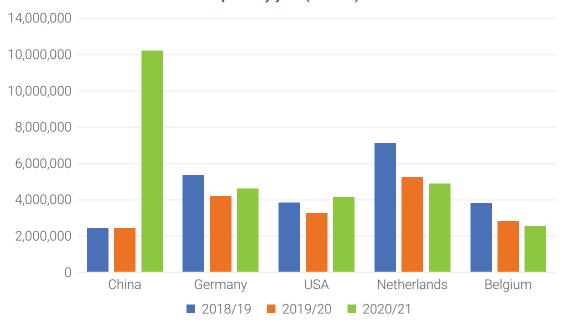
Unsurprisingly the total value of disaster relief products imported into the country has risen in the last 12 months. In 2019/2020, the import value of these 183 products from all countries was £32.08 billion. In the year 2020/2021 this had reached £46.28 billion, an increase of £14.2 billion. Strikingly, 70% of this total rise in import value is attributable to an increase in the amount purchased from China (an increase of £9.8 billion). The onset of the pandemic, and the subsequent rush of disaster relief equipment and produce, has clearly forced the United Kingdom to turn towards those supplies most readily available at the time.

However, this is a precarious edifice upon which to have erected the UK's response to the Covid-19 pandemic. The essential access to a huge number of disaster relief materials has been allowed to hinge upon the continued flow of goods from the People's Republic of China to the UK. This holds vulnerabilities not just for political reasons – although this of course must not be seen as secondary. Indeed, as we have seen, the recent enquiries into whether Covid-19 originated from a lab in Wuhan, is likely to heighten geopolitical tensions and prove a tempting reason for members of the Chinese Communist Party apparatus to consider deploying strident negotiating measures – including export controls for covid essential products. But the vulnerability also exists for less nefarious reasons. We have now seen the damage that can be wrought in a globalised age as the result of natural disasters. In the early stages of the pandemic, goods ceased to flow from China. Certainty and normality cannot be guaranteed if the road to recovery is built upon the back of Chinese disaster relief Imports.

#### **Origins of UK 'Disaster Relief' imports**



#### Imports by year (in 000s)



#### **Specific products of concern**

The IBN has ascertained those products with which the UK currently has an unhealthy and unstable relationship with the People's Republic of China. The three criteria for such an assessment are:

- The UK is a net importer of the product: In 2020 the UK was a net importer of 130 out of the 183 disaster relief products
- The proportion of the product bought from the People's Republic of China has increased since the onset of the Covid-19 pandemic: 123 of the 183 products which are vital in the fight against Covid-19 have seen a growth in the amount imported from China.
- The UK acquires over 50% of its imports from the People's Republic of China: The
  majority of imports come from China for 32 of the products categorised by HMG as
  necessary for disaster relief.

The 6 categories below outline the key products of concern.

#### **Healthcare grade disinfectants**

Quaternary ammonium salt -based products (QuatS) are the gold-standard of disinfectants. Their use is most prevalent in healthcare environments – including hospitals and care homes, and they help provide the bedrock of Infection Prevention Control strategies across the NHS. Indeed, the United States' EPA explicitly recommends their use in combatting SARS-CoV-2.<sup>31</sup> The amount that the UK imports has risen over five-fold since the onset of the pandemic, increasing from £12 million to £62.6 million. However, this increase seems to be almost entirely attributable to an increase of Quats disinfectant products imported from

<sup>31 &</sup>lt;u>Increased Use of Quaternary Ammonium Compounds during the SARS-CoV-2 Pandemic and Beyond:</u> Consideration of Environmental Implications (nih.gov)

China. In 2019/2020, just 3.55% of these imported products (categorised under the CN code 38089410) entered the UK from China. In the twelve months leading up to March 2021, this market share had reached 72.59%.

This is not just a fleeting surge towards quats either. By 2027, it is forecast that the deeply embedded societal changes, particularly around infection control measures, will have driven the quats market to new heights. The market is expected to reach \$1.63 billion by 2027,<sup>32</sup> and is being capitalised upon by Chinese firms such as Xiamen Pioneer Technology.<sup>33</sup> Many multinationals that trade in surface disinfectants have also made efforts in recent years to produce their production capacities within China, seeing it as a gateway to southeast Asia as well as allowing them to reduce overheads. For example, in 2017 the Dutch firm AkzoNobel undertook significant investments into its Beijing surface chemicals plant.<sup>34</sup>

#### **Medical gloves**

The Department of Health and Social Care has made grand claims about the increase in domestic industrial capacity throughout the pandemic. It was suggested at the end of 2020 that 70% of all PPE used in the UK will henceforth have been manufactured on home soil, reducing potential supply disruptions as a result of unstable international circumstances, and global competition for finite resources.

Such an achievement would have been a phenomenal undertaking, given that in March 2020 the National Audit Office recorded that just 12% of the PPE used in the United Kingdom has been made here.<sup>35</sup> It was therefore unsurprising when the government later conceded that such a target would not be achievable – or indeed measurable.<sup>36</sup>

Gloves are the most necessary form of protective equipment, constituting 62% of all PPE used. Yet the UK currently has no existing domestic capacity for the production of plastic protective gloves, and its import profile is overwhelmingly made up by Chinese produce.

Protective gloves fall across several commodity codes, but are most commonly imported under the following three headings: "articles produced by stitching together plastic coating" (39262000), "surgical gloves of vulcanised rubber" (40151100), and "protective gloves made of nonwovens" (62101010).

We can see the rush for these materials by the sheer rise of imports in each category, with the value having risen five-fold (40151100), ten-fold (39262000), and one hundred-fold (62101010), respectively.

Even before the pandemic, 62% of articles made by plastic coating, polypropalense, were imported by People's Republic of China in 2019/2020, equating to £84 million. As of the end of March 2021, this figure was £837 million that arrived from China, and now constituted 71% of the UK's import profile.

<sup>32</sup> Quats (Quaternary Ammonium Compounds) Market To Reach USD (globenewswire.com)

<sup>33 &</sup>lt;u>China Quaternary Ammonium Salt manufacturer, Cationic Surfactant, Phase Transfer Catalyst supplier - Anhui Benma Pioneer Technology Co., Ltd (made-in-china.com)</u>

<sup>34</sup> Completion of €4.8 million expansion of Surface Chemistry plant in China (nouryon.com)

<sup>35</sup> The supply of personal protective equipment (PPE) during the COVID-19 pandemic (nao.org.uk)

<sup>36</sup> Exclusive: Government U-turns on claim that '70 per cent' of England's PPE is made in the UK - CityAM : CityAM

Gloves made out of vulcanised rubber, of the kind sported by those administering vaccines, have seen a stark rise. China, having developed self-sufficiency in the production of vulcanised rubber, has been able to steadily increase its export profile in recent years. This can be attributed to greater R&D efforts that have uncovered industrially applicable cost-saving measures, and investments that have increased capacity – such as \$15.6 million that Dawn Polymer has thrown behind its new HBNR facility in Yantai.<sup>37</sup> In with this given due consideration, the sheer scale of their hold over the UK's import market – and its growth in just twelve months – highlights the extent to which the Covid-19 pandemic has heightened UK dependency on China. Between April 2019 and March 2020, just 6.7% of the UK's imports of these gloves originated from factories in China – at a value of just £5.6 million. Fast forward to March 2021, and in the preceding year, China has amplified its presence to 52.3%, and a value of nearly £270 million.

Likewise, the final category of gloves – those made of nonwovens - has risen throughout the pandemic and now rests at a point of Chinese dominance. Having imported just over £1 million from around the world, in the year leading up to the pandemic, the UK imported £108.5 million in the last twelve months. This surge reflects the sheer lack of domestic capacity. The vulnerabilities that accompany this lack of UK-based manufacturers comes from the lack of diversity in the supply and provision of these goods. Currently China holds just under 90% of the UK's import market of these goods, at a total value of £95.8 million.

#### **Personal Protective Equipment - Gowns**

The DHSC has made it the stated objective of its PPE strategy to "diversify international suppliers beyond China".<sup>38</sup> The tangible link between the nation's health and domestic manufacturing capacity has been laid bare these last 18 months. Indeed, even suggestions of a 'diversified supply chain' look shaky, given the sheer hold that China has held in the international PPE market.

The UK must ensure that, in seeking to acquire PPE, it is never again forced to turn excessively outward for its provision. We have seen in the last 12 months that the global market of PPE does not give the UK the chance to 'shop around', but rather weans our pandemic strategy onto the teat of Chinese manufacturers. Across the four WCO headings, under which the UK imports PPE gowns, China has held a market share of between 75 -90%. In essence, a reliance on global imports equates to a reliance on China. The argument has been made that with an increase in domestic capacity, the reliance of China wanes, and that as British manufacturers rise to the challenge of producing over two thirds of British PPE, we need not worry about where the rest of the stockpile is sourced from.<sup>39</sup> This position holds minimal truth and is based on two faulty assumptions. Firstly, that the UK's current industrial strategy paradigm will allow for British manufacturers to remain focused on PPE production, rather than redeploying their exertions elsewhere, long after the immediate pressures of the pandemic have eased. And secondly, that the remaining one third of PPE which will continue to be imported, is somehow superfluous to the overall health of the UK's stockpiles, and that if it were to be withheld or disrupted, that domestic capacity could simply take the slack.

<sup>37 &</sup>lt;u>China cuts synthetic rubber imports; advances new materials (rubbernews.com)</u>

<sup>38</sup> https://www.gov.uk/government/publications/personal-protective-equipment-ppe-strategy-stabilise-and-build-resilience/personal-protective-equipment-ppe-strategy-stabilise-and-build-resilience

<sup>39</sup> Article suggesting PPE concerns are over

This is not an ephemeral concern either, it will be incumbent upon governments around the world to continue to secure a steady supply of PPE long after the present pandemic has subsided. As such, the global market is expected to remain competitive long into the future, with elevated prices.<sup>40</sup> It is imperative that steps are taken now to prepare for this long-term demand.

The largest category under which PPE is imported, "articles of textile materials," is almost entirely made up of UK-China bilateral trade. 88.59% of British imports in this category come from China, equating to £2.8 billion out of £3.1 billion in transactions, with just £300 million from the remaining 157 WTO members. Far from being a case of 'international' engagement, the pandemic has impelled British policymakers into a subservient reliance on Chinese manufacturing capabilities. This dramatic tale was not always the case, just a year previously China held just a 49% share of UK imports, at £136 million.

Similarly, "single use gowns", have seen the UK forced to enter into dealings with China which have a greatly weighted power imbalance at their heart. In 2019/2020 the UK imported £7 million from China (47%). It now finds itself sourcing £1 billion worth of "single use gowns" out of a total import profile of £1.3 billion (75%). Not only this, but the UK's export profile demonstrates the sheer extent to which the UK can now be classified as a net importer of single use gowns. In 2019/2020 the ratio of imports to exports was 2:1 (£15m:£7m). That relationship now stands at 280:1 (£1.4bn:£5m).

#### **PPE: Face masks**

Major concerns should surround the UK's sovereign ability to acquire these masks during times of international health emergencies. This reliance on China not only creates a potential lever of diplomatic coercion, but also stymies any true chance for British domestic manufacturing capacity to gain a substantial enough foothold. Evidence in the US has suggested that domestic producers are being driven out of business by Chinese dumping practices. The American Mask Manufacturers Association have claimed that unless help is forthcoming against "unfair trade practices by foreign nations" there will be serious implications for "the viability of the U.S. domestic PPE mask manufacturing industry, as well as future U.S. pandemic preparedness efforts".<sup>41</sup> This in itself should be reason enough to raise concern, but the threat becomes more stark owing to the considerable concerns that have arisen over the actual efficacy of masks produced by the People's Republic of China.<sup>42</sup>

#### **Diagnostic kit**

It was widely reported at the  $G7^{43}$  held in Cornwall that the antigen tests attendees were required to take, had been manufactured in China. The UK displays a real reliance on China for the instruments used in laboratories for in vitro diagnostics of Covid-19. The year before the pandemic the UK imported £1.3 million worth of equipment from China – just 2% of the total that it imported. The first 12 months of the pandemic it imported £283 million, a near

<sup>40</sup> Global annual spend on PPE can hit \$50-80bn; China key player: Jefferies | Business Standard News (business standard.com)

<sup>41</sup> America's mask makers face post-pandemic meltdown | Reuters

<sup>42</sup> Almost 70% Of Chinese KN95 Masks Don't Meet Minimum Safety Standards (forbes.com)

<sup>43 2021</sup> G7 Summit – UK Presidency (g7uk.org)

<sup>44</sup> China-made test kits big hit in Europe - Chinadaily.com.cn

200-fold increase. On top of this, China is now the UK's primary import market for this vital diagnostics equipment, with 53% originating there.

#### Wadding, gauze, and bandages

Although not directly connected to the Covid-19 pandemic, two categories of wadding and gauze have been identified by the UK government as critical for healthcare disasters. In 2019/2020, just 31% of the UK's wadding came from China. As a result of the pandemic, this has now risen to over half (52%).

Similarly, gauze and articles of gauze have seen a significant increase., despite the overall amount imported having increased only fractionally (£16.5 million to £17.6 million). However, the UK now imports over 70% of its gauze, whether or not impregnated with pharmaceutical products, from China.

# 5. Aerospace Engineering

As a major centre of the global aviation industry, the UK continuously runs a substantial trade surplus with China in the exchange of finished aerospace products (HS88). As shown in Table 1, this has been the case near constantly since 2001, with only 2 years bucking this trend. Since China's admittance to the WTO, its share of the UK import market in has increased nearly 24-fold yet is still just 1.4% of the total that the UK buys from the rest of the world. These figures would suggest that the United Kingdom's aerospace sector is unlikely to become collateral damage if a trade war were to erupt between the two sides.

However, what this table does not reveal is the multitude of chokepoints that exist within UK aerospace supply chains over which China has a strong, and growing, hold. In most instances, these vulnerabilities are in areas where the UK's domestic capacity has been ground down by anti-competitive practices in China and by a fundamental misunderstanding of the impact on UK national security in areas such as metals production and processing capacity. Elsewhere, they have been the result of geological fortune on behalf of the People's Republic of China, whose natural wealth in certain strategic materials essentially equips the Chinese Communist Party with a red switch that can be flicked at a moment's notice and push western aerospace production into chaos.

The UK Government believes that at least 60% of UK aerospace companies can roughly be classified as 'build to print' or 'design and build'. This focus on the 'end processes' of aerospace has meant that those vital industries that operate distantly upstream have very rarely been afforded due consideration. Yet, without the readily available capacity to acquire vital materials, and smaller component parts, British Original Equipment Manufacturers and Tier 1 suppliers would be cut adrift.

Through analysis of Northwest England's aerospace cluster, the largest in the UK, the Independent Business Network has discerned that there are 727 CN8 categories directly involved in the trade profile of British aerospace. This encompasses the imports of metals, composites capital goods, component parts, and electronic devices. Of these, 75 categories offer symptoms of serious exposure to the People's Republic of China – whether through existing trade volumes or a rapidly growing share of the UK market. Within these categories, the products classified as such are more heterogenous than other headings within the nomenclature and owing to the precise nature of the aerospace sector's needs, have a range of products/ commodities encompassed under a single banner. Qualitative assessment would suggest that there is a mean of 29 products per category, allowing us to discern that over 2,100 aerospace products have related exposure to supply chain disruption that the Chinese Communist Party could cause.

These points of chokehold, if squeezed, could suffocate the UK's delicately poised aerospace clusters, and the innovation that emanates from them into wider industrial

categories. The following section will address many of the vulnerabilities that exist, and a comprehensive list of other exposed commodities can be found in Appendix A.

China dominates the global market of rare earth elements (REEs), has most of the global processing capacity, accounts for 81% of the world's supply, 46 and has frequently displayed a willingness to use this near monopolistic position for its own geostrategic ambitions. This was blatantly clear in 2010, when a diplomatic conflict with Japan broke out over territorial claims in the East China Sea. The strategy adopted by the Chinese Communist Party in this instance was not to seek resolution at multilateral institutions, but to attempt to strongarm Japan into acquiescence through an export ban of REEs. 47 More recently, in October 2020 the National People's Congress implemented legislation that enables it to introduce export limit controls over any product the sale of which may "compromise China's interests". 48 With this sort of manoeuvre being undertaken, the previous US administration was correct to declare its reliance on Chinese rare materials as a matter of national security concern. 49

The UK should take similar such measures owing to the reliance that its aerospace sector currently has on the People's Republic of China for access to these materials. In 2019 69.94% of praseodymium imports were from Chinese producers. This metal can be combined with magnesium to make alloys with significantly reduced grain sizes, 50 thus making a strong, yet light material, ideal for aerospace gearbox casings and engine frames.

We know that China is prone to using this western dependency on its praseodymium supply as a negotiating ploy, and a way to exact pressure. In August last year, the threat was floated of China withholding the export of this product.<sup>51</sup> It is, therefore, not a theoretical fancy to classify praseodymium as an 'extremely vulnerable' product, but a matter of realpolitik.

The United Kingdom must work with the US and Japan, and augment their considerable stockpiling efforts, to ensure continued western supply in the eventuality that China seeks to disrupt flows. The maintenance and support of multilateral stockpiles would circumvent and outflank the pressures China could exert. These efforts should also include working with allies such as Australia on the advancement of western facilities for processing REEs, this would complement the recent announcement that the UK is soon to have domestic capacity through the construction of a plant in Yorkshire. <sup>52</sup>

In many cases, the exposure to China is circumnavigable through greater alignment of trade and industrial strategy. In areas of domestic strength, such as the acquirement of tungsten, the UK can redress some unhelpful trade practices which have emerged in recent years. The natural asset of the, currently dormant, Drakelands tungsten mine means that the UK does not need to import significant quantities of this metal from the People's Republic of China. However, at the moment China has an 87.56% share of the UK imports market for unwrought tungsten, largely reflective of its overwhelming leadership in global production. <sup>53</sup>

- 46 Rare Earths Data Sheet Mineral Commodity Summaries 2020 (usgs.gov)
- 47 China resumes rare earth exports to Japan BBC News
- 48 China's New Export Control Law: An Overview Lexology
- 49 Rare Elements of Security Air Force Magazine
- 50 Effect of praseodymium and erbium additions on solidification characteristics, microstructure and mechanical properties of as—cast ZRE1 magnesium alloy Ahmad 2017 Materialwissenschaft und Werkstofftechnik Wiley Online Library
- 51 China's Rare Earth Threat Sparks An International Backlash (forbes.com)
- 52 Plan for UK rare earths facility to 'break dependence on China' Supply Management (cips.org)
- 53 Tungsten production worldwide by country 2019 | Statista

In 2010 this share was just 72%, suggesting the UK has been increasingly weaned onto Chinese imports. Tungsten is used in the creation of steel superalloys, and its chemical composition make it invaluable in the manufacture of many aerospace parts such as rotor blades, propellers, inertial systems, and fluid control systems owing to its vibration resistance. Similarly, foreign imports of tungsten wire (56.36%) – used in aerospace ballast and the construction of shells – primarily originate from the People's Republic of China, as does tungsten bar imports (58%). To reverse this trend support must be given to the reinvigoration of the Drakelands mine, and efforts made to shift UK consumption towards this more reliable source.

The main deployment of unwrought tantalum, of which 63.9% of UK imports come from China, is in the production electrolytic capacitors with short cooling off periods. It also offers significant temperature resistance when participating within superalloys, creating a material that is deployed in Rolls-Royce engines. The rate at which the Anglo-Sino trade relationship has deepened since 2010 is immensely worrying, as a decade ago just 23% of UK tantalum imports were of Chinese origin. The import profiles of tantalum articles, including bars and waste, are less exposed, but still have a strong Chinese presence within their makeup.

Around the UK there are approximately 130 bases that serve the needs of aluminium and aluminium alloy production.<sup>54</sup> Many of these, such as Alvance British Aluminium, have strong relationships with the aerospace sector and craft custom-made designs for the particular needs and geometric requirements. The fact then, that in certain categorisations of non-alloyed primary aluminium, 55.87% of imports come from China – up from just 5.1% in 2010 – is testament to the vulnerability that UK aerospace has upstream. British manufacturers, at Tier 1 and Tier 2 within the supply chain, have the unbridled talent and capacity to produce the exact requirements of a certain component, with a metal that meets the precise ductile, strength, and weight needs. However, without the primary materials themselves, this capability is made redundant. As an intrinsic metal of the sector, there is a clear link between its availability and the health of the industry. Unwrought aluminium is needed for the manufacture of alloys, such as 6061, out of which can be crafted hydraulic manifolds, annulus fillers in engines, and helicopter rotor skins.

In the case of unwrought aluminium, the People's Republic of China's market strength, again, reflects concerted efforts by the CCP to improve the country's global position in the trade of crucial commodities. In America, the Aluminium Association<sup>55</sup>, supported by the US Department of Commerce, notes that between 2000 and 2017, China's market share of primary aluminium grew from 11% to over half.<sup>56</sup> Yet, as the UK's aluminium industry continues to falter, efforts are well underway this year to increase the growth of China's aluminium stature by an additional 3 million tonnes,<sup>57</sup> and to build on its 2019 growth rate of 12.3%.<sup>58</sup>

Elsewhere, the figures show that a fifth of ready-made aluminium alloy imports come from China. Of particular note is the trade profile aluminium 7075 (alloyed with zinc) – the alloy of choice for military applications – which has been increasingly infiltrated by Chinese products. The value of its imports having nearly doubled between 2010 and 2019 to £47

<sup>54</sup> Aluminium Production in the UK - Industry Data, Trends, Stats | IBISWorld

<sup>55</sup> The Aluminum Association

<sup>56</sup> Getting Trade Right | The Aluminum Association

<sup>57</sup> China to add 3 mln T of aluminium capacity in 2021 - Antaike | Reuters

<sup>58</sup> China – Setting the pace for the global aluminium industry | ALUMINIUM 2021 (aluminium-exhibition.com)

million. This "aircraft grade" aluminium is functional across the entire structure, with components parts of the fuselage and wings – as well as rivets and bolts – being crafted by it.

The UK's ability to manufacture the specific needs of OEMs is one of the main catalysts behind the strong investment that the aerospace sector has undertaken in recent years. In 2014, for example, Airbus and Magellan Aerospace, reached an agreement on the construction of wing ribs for the A320 plane. This led to the acquiring of new machinery, new investment, and new facilities in Northern Ireland to increase production competencies.<sup>59</sup> These manufactures, that provide the structure for the wing's skin to be wrapped around, are primarily crafted by aluminium alloys such as alloy 7449 used for the wing ribs of A380s.<sup>60</sup>

British policymakers must also be alerted to real domestic deficiencies in the long-term security of magnesium. Magnesium is present in alloys, such as RZ5 and EQ21, out of which can be cast gearbox casings in civilian aircraft. More recognisably, aluminium is combined with rare earth elements to craft the casing for Rolls Royce's Tay engines. When alloyed with silicon it is also used for transmission casings in military aircraft, such as Eurofighter typhoons, manufactured by Airbus and BAE systems. 70.12% of the unwrought aluminium brought into the country is served by Chinese production capacity.

According to Composites UK, there are currently around 1500 companies involved in the British composite industry.<sup>61</sup> The companies are at the forefront of conceptual design, crafting new materials that reduce weight, increase shatter resistance, and allow the progress of aerospace sector to continue through innovation. The ambition that UK-based OEMs have shown towards composites indicates that this is an industry which will become increasingly central to aerospace manufacturing in this decade. Boeing 787, for example, is 50% composite and enjoys significant weight savings, less required maintenance and have a much-reduced risk of corrosion or fatigue.<sup>62</sup> Programmes such as Airbus' "wings of tomorrow", are centred around the development of composites, and British Tier 1 and Tier 2 suppliers respond accordingly with investments of their own as seen in Filton with GKN Aerospace's Resign Transfer Moulding equipment.<sup>63</sup>

This equipment, that allows innovative domestic design work, requires that the composites and resins needed for production are readily available. This is not always the case. One such example is basalt fibre, a material with evident utility in the construction of aerospace parts. This is a material that is considered the 'future' of aerospace fibrous composites. In 2019 32% of UK imports (£10 million) come from the People's Republic of China, most commonly in the form of fibre tape for use in onward manufacturing on wings. However, in the first 11 months of 2020, 54% of UK imports were from China, with the actual value having more than doubled to over £21 million. This suggests that during the pandemic, China has actually strengthened its influence within the UK composite sphere. It is also testament to the fact that China has identified this as an asset of the future, by undertaking significant investments into basalts fibre manufacturing in order to secure a considerable market share. In 2018, Sichuan Province opened its first production facility, declaring that "basalt fibre is one of the four high-tech fibres in China's key development, and it is also the key product

<sup>59</sup> Magellan UK to Manufacture A320 Wing Ribs - Magellan Aerospace

<sup>60 &</sup>lt;u>Aluminum Alloy Development for the Airbus A380 :: Total Materia Article</u>

<sup>61</sup> Introduction | Composites UK

<sup>62</sup> AERO - Boeing 787 from the Ground Up

<sup>63</sup> GKN Aerospace breaks new ground in large composite wing structure technology

of the "13th Five-Year Plan" strategic emerging industries." This strengthening of Chinese market share through aggressive production is can clearly already be seen to be bearing fruits.

Other vital components of aerospace composites also share vulnerabilities. A third of all aramid fibres (up from 9% in 2010) are imported from China. This in part reflects the fact that Chinese companies 'Yantai Tayho Advanced Materials' and 'X-FIPER New Material' are major players that are relatively new to the sector and are challenging the traditional monopoly held by US and Japanese firms. China has seen a strong growth rate in this market of around 10% in recent years, driven by national policies, and as it overcomes technological limitations this proportion will continue grow. Finis is particularly concerning given that aramid composites have significant military utility as a reinforcement that complements other materials.

The aerospace sector has had its interests piqued by boron carbides, or the "black diamond" in recent years. 66 Not only is it the world's third hardest metal, but its surprising lightness makes it extremely useful in aviation structures, whilst its ability to withstand ballistic assaults gives it strong military potential. This gives it increasing value in the construction of ceramic matrix composites (CMC). These composites are increasingly being seen as viable alternatives to titanium alloys in the construction of engine hot sections, according to Todd Steyer of Airbus. 67 Moreover, its high temperature resistance allows its powders to be used in the manufacture of electronic components, and to play an increasing role in the semiconductor industry. In the first 11 months of 2020, 83.9% of the UK's boron carbide imports have come from China – with its largescale producers such as Shanghai Vital – up from 66% in 2019.

Within the UK are some of the globe's preeminent nacelles manufacturers, such as Safran Nacelles in the Northwest. Accompanying the layers of composite that are the mainstay of nacelles, there is often a honeycomb middle, the inclusion of which adds further stiffness and prevents buckling. Aluminium honeycomb is the most common material deployed to this end, and just over a quarter of UK imports, to the total value of nearly £50 million, originate from China. This is of course at a time when there are serious concerns about China's overcapacity in this sector.

Indeed, whilst much has been made about the EU's application of significant aluminium tariffs on Chinese products last year, no such measures were introduced on aluminium honeycomb.<sup>68</sup> When one assesses the trade defences put in place by the EU, under REGULATION (EU) 2020/1215, very few are of any real utility to UK domestic producers or applicable to products that the UK overwhelmingly imports from China.<sup>69</sup>

Over £55 million worth of magnets imported into the UK, and the metals required to manufacture them, come from China. In 2010 one fifth of these commodities were supplied

<sup>64</sup> The People's government of Sichuan Province: Our province's first basalt continuous fiber production base put into operation

<sup>65</sup> Global and China Aramid Fiber Industry Report, 2017-2021 (researchandmarkets.com)

<sup>66</sup> Boron Carbide Market to Display Higher Growth Rate Due to Increase in Demand From Automobile, Manufacturing & Aerospace - Bloomberg

<sup>67</sup> Shaping the Future of Ceramics for Aerospace Applications - Steyer - 2013 - International Journal of Applied Ceramic Technology - Wiley Online Library

<sup>68</sup> TARIC Measure Information (europa.eu)

<sup>69 &</sup>lt;u>EUR-Lex - 32020R1215 - EN - EUR-Lex (europa.eu)</u>

by China, it is now 82.24%. Magnets are deployed across an aircraft and in a range of roles, including within inertial guidance systems, radar systems, the throttle lever, actuators, and within the engine. Since 2001 China has dominated the rare earths permanent magnets (REPM) market and owns around 90% of the current global market.<sup>70</sup>

The UK's aerospace capacity has a reliance on Chinese imports for many different capital goods. Without the ability to procure machinery, and to make investments for the future, the sector ultimately begins to wither on the vine. There are many instances wherein the UK has been coaxed into reliance on the cheapness of Chinese machinery – a feat achieved through laxed labour and environmental standards. Many importers of these goods also serve other sectors, such as the automotive sector, and also serve some of the processes that are the bedrock of the third industrial revolution.

For instance, we know that 3-D printing is an area with strong UK design and formatting capacity, and that its use in creating precision designed composite pieces has opened new frontiers in the aerospace sector. Concerns should be raised, therefore, that there has been a swell in the proportion of machines being imported from China. In 2010 just £314,634 worth of "machinery for forging products from rubber and plastic" was imported, at the time this constituted 6.9% of UK imports, as of 2020 this is now nearly 30%. A near five-fold increase. Meanwhile, the United States has fallen from 27% in 2010 to 16% this year. This growth from China is a natural consequence of the country's 'Additive Manufacturing Industry Development Action Plan'<sup>71</sup>, a central pillar of the Made in China 2025 agenda, that seeks – through state interference and support – to entrench the People's Republic of China at the forefront of additive manufacturing industry's design, deployment, and development.

We can also see that 53.49% of "drilling machines for working metal." are imported from China, by hundreds of UK-based companies including Airbus. As are 50.44% of rolling mills, used for the sculpting of metals, 70.39% of horizontal lathes, used for crafting specific metal components, 39.27% of machines for the arc welding of metals, and 59.72% of steel grinding balls for mills. Equipment such as this is the essential foundation upon which is built the UK's metals manufacturing industry, and without the ready availability for companies in this industry to continue making capital investment, there is a strong risk of stagnation and decay.

As discussed previously, the unique capacity of the UK aerospace sector to initiate technological breakthroughs that can be deployed economy-wide, make it an essential strategic asset. The R&D investment, coupled with the engagement for domestic Tier 2 and Tier 3 producers, has benefits that far transcend the fields of aviation. Moreover, the dual-use characteristics of many of its outputs are vital prerequisites for a strong foreign policy and global presence. The talent, capacity, and know-how needed to maintain the United Kingdom's global lead in this field are certainly abundant. As this section has shown, however, is that this asset can be derailed at multiple points, and from various angles, if China were to adopt export measures against the United Kingdom. If the UK is to be a global leader in resisting Chinese revisionism, it must ensure it safeguards aerospace from such attacks.

<sup>70 1.4978699 (</sup>scitation.org)

<sup>71</sup> China state Action Plan aims to make 3D printing worth \$3 billion by 2020 - 3D Printing Industry

### 6. Flectronics

#### **Printed Circuit Boards**

The PCB market is forecast to experience rapid global growth over the next five years from \$70 billion to \$86 billion in 2026. This expected growth reflects the pivotal position that PCBs will play in the Fourth Industrial Revolution, across a range of sub sectors and technologies including driverless vehicles, robotics, Artificial Intelligence, and 5G. This is not to mention the global glut for consumer electronics which is also heightening demand.

Since 2006 China has led the global PCB race, so much so that in 2018 it held 54% of the global market (up from 2% in the 1980s).<sup>72</sup> This has been driven by domestic production efforts, in industrial bases such as Fushan Industrial Park which is currently the epicentre for the 'Zhuhai project' – an attempt to revolutionise the People's Republic of China's technological capacity.

At the end of last year, as part of Made in China 2025, a further 25 projects were launched by the likes of Kinwong Electronic and Sun & Lynn Circuits, with the intent of cementing China as the undisputed world leader in this field. Such efforts are paying dividends, too. Just prior to the pandemic, China's PCB market's Compound Growth rate was expected to be 3.2% until 2024; significantly outpacing the global average of 2.5%. Furthermore, in 2019 Fuyang Technology gained a place as part of Apple's supply chains, with clear involvement, through its parent company Pegatron, in the construction of IPhones. Hong Kong suppliers constituted over 20% of Apple's 'Top 200 suppliers list', with 41 companies listed, compared to 37 from the US. The majority of this manufacturing activity is centred around the Pearl River Delta, exports from which have been extremely compromised by delays and chaos at the Yantian International Container Terminal; a further demonstration that overreliance on one particular trade partner could result in unanticipated supply chain disruption.

#### **Finished products**

The UK is a significant net importer of printed circuit boards, with an import to export ratio of approximately 2:1. In 2019, the value of the UK's printed circuit board exports was just 50.8% of the value of its imports. This has been a long term, and whereas the UK has previously been a net exporter of Printed Circuit Boards, most recently in 2006, it is an unavoidable conclusion that the UK has become overwhelming reliant on overseas producers.

In 2010, 28% of the UK's imports came from China, and this has now risen to 39% in 2020

<sup>72</sup> Printed Circuit Board (PCB) market analysis: China's dominance is threatened (power-and-beyond.com).

<sup>73</sup> Printed Circuit Board Market & Recyclable PCB Market Research Report: Market size, Industry outlook, Market Forecast, Demand Analysis, Market Share, Market Report 2021 - 2026 (industryarc.com)

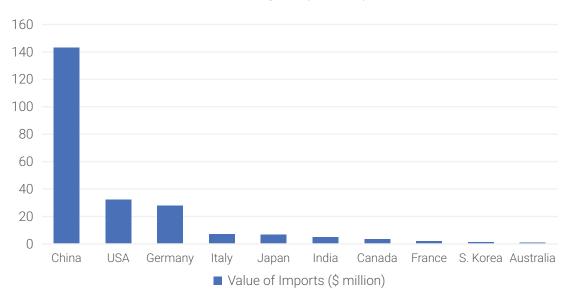
<sup>74</sup> China's Fuyang Technology Joins Apple's iPhone Supply Chain for Flexible Printed Circuit Boards - Patently Apple

<sup>75</sup> Despite trade war: Apple has more Chinese suppliers than ever (asiafundmanagers.com)

<sup>76 &</sup>lt;u>Disruption to shipping could delay Christmas orders - BBC News</u>

(\$143 million). The total value of imports, however, has remained relatively stable between 2010 and 2019, with an obvious disruption in trade across 2020. Whereas in 2010 \$448 million of PCBs were imported by the UK, in 2019 it was \$466 million. In and of itself, the growing prominence of China, and the fact that these imports are no longer predominantly at the low-cost, high volume end of the spectrum, but are high quality products with massive cross-sectoral utility, is worrying. However, the lack of alternative provision from fellow democracies is just as stark. Using the group of ten countries that are increasingly referred to as the D10, we can see that just 24% (\$85 million) of the UK's imported Printed Circuit Boards came from those nations which could be considered democratically stable, and more reliable trade partners. The same stands true when assessing the proportion of imports which comes from NATO members. Just 27% of UK imports of PCBs arrive from those nations within which The United Kingdom is in a military alliance.





Serious concerns exist around Chinese investment in the UK's domestic capacity to produce Printed Circuit Boards. For example, in 2019 there was significant discontent that Gloucestershire-based firm Exception PCB, which was providing chips for F-25 Fighter Jets, had a Chinese parent company.<sup>77</sup>

High-profile news stories such as this were an important impetus behind the recent findings of the House of Commons Defence Select Committee, which demanded that Chinese and Russian suppliers be removed from the UK's defence supply chains. However, one does not need to look too far upstream to see that, even if prevented from providing the PCBs themselves, China will still have significant influence over the UK's domestic production capacity.

For example, copper clad laminates such as FR4, the primary material upon which the intricacies of a PCB's electronics are laid, demonstrates the ubiquity of the People's Republic of China within the global supply chains of these devices. Traded under the HS code 741021, the two top global exporters of this products are the People's Republic of China

<sup>77</sup> F-35 jets: Chinese-owned company making parts for top-secret UK-US fighters | UK News | Sky News

<sup>78 &</sup>quot;Bar Russia, China from investing in UK defence supply chain": MPs (army-technology.com)

and Taiwan, together accounting for 51% of the world's exports in 2019. Taken as a five year rolling average, between 2016 and 2020 inclusive, 31% of UK imports came from China at an average of £1.6 million per year (although this figure has obviously been affected by the pandemic), compared to an average of £681,000 from the US and £613,000 from Germany.

Likewise, many capital products required for the domestic manufacture of PCBs originate primarily from China. In 2019, way over half (58.7%) of The United Kingdom's imported printed circuit electroplating and electrolysis machines were bought from the People's Republic of China. These machines form a vital function in the production of PCBs as they allow for the insertion of conductive materials. China is also one of just two markets, alongside Germany, able to provide significant quantities of soldering machines "of a kind used solely or principally for the manufacture of printed circuit assemblies". Combined these two nations constitute 88% of UK imports, and whilst Germany currently provides a bigger proportion of this, China has become a significant player in a short period of time. In 2017, the UK imported just £499,000 from China. By 2019, this figure was £1.55 million, a three-fold increase.

#### **Semiconductors**

As one of the most heralded technologies in international technological development, semiconductors are the primary case study by which to adjudge the power conflict between the West and China. Recent efforts by Chinese companies, such as Yangtze Memory Technologies, to establish complete self-sufficiency across the entire semiconductor supply chain<sup>79</sup> have led to significant strides being made in this field. The People's Republic of China's fourteenth five-year plan, and the country's 'Guidelines to Promote National Integrated Circuit Industry Development'<sup>80</sup> stress the need for "technology independence" and has meant that industrial bodies across China have been looking far upstream for ways to establish airtight domestic supply chains. The strategic decision of Donald Trump to exert pressure on these supply chains, through measures placed on Taiwan Semiconductors Inc, showed the diplomatic advantage currently enjoyed by the West. However, this upper hand is passing at an alarming speed.

In 2020 alone over \$35 billion was invested by the Chinese in domestic semiconductor production.<sup>81</sup> This accompanies the creation of a national fund,<sup>82</sup> and investment such as Nexperia China's pledge to insert \$818 million of capital into its plants in order to introduce a high-power MOSFET production line.<sup>83</sup> The value of China's production industry has risen from £83 billion in 2019 to £98 billion just a year later. A staggering rise.<sup>84</sup>

Even without this surge of investment, China would already be one of two countries that could be considered the UK's primary source of "diodes, transistors, and semiconductors"

<sup>79 &</sup>lt;u>US-China tech war: Beijing's secret chipmaking champions | Financial Times (ft.com)</u>

<sup>80</sup> The Potential Impacts of the Made in China 2025 Roadmap on the IC Industries in the U.S., EU, and Japan (usitc.gov)

<sup>81</sup> Where China is investing in semiconductors, in charts · TechNode

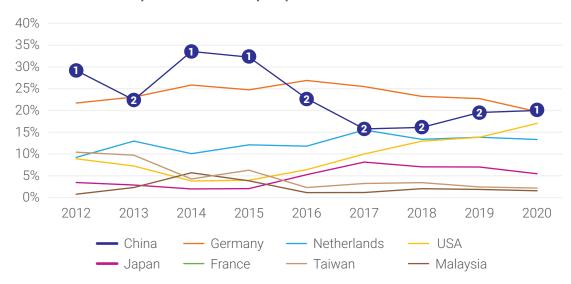
<sup>82</sup> China's semiconductor industry: A sleeping giant that has been awakened | FSMOne (fundsupermart.com)

<sup>83</sup> Wingtech raises \$818 million for Nexperia China to introduce high-power MOSFET production line – SemiMedia

<sup>84 &</sup>lt;u>Developing Telecoms finds that China accelerates production of 28nm and 14nm semiconductors</u> (prnewswire.co.uk)

as shown in the table below. In the last decade, along with Germany, China has consistently provided the UK with between a fifth and a third of its annual semiconductor imports. This paints a much different story to the one often reverted to by commentators; namely that China has almost no domestic capacity to produce semiconductors and is entirely beholden upon the United States. As the aforementioned investment continues apace, policymakers in the UK must be alert to potential supply chain dependencies that may emerge. This is particularly the case given that one of the UK's largest chip manufacturers, Newport Wafer Fab,85 has recently had senior staff of the Chinese-owned Nexperia inserted onto their board.86

#### China's position as UK's import partner - Semiconductor devices



This position can largely be attributed to China's major role in the production and exportation of photosensitive semiconductor devices. These are generally lower-cost semiconductors, used in medical devices, camera equipment, and modern telecommunications equipment – particularly that centred around video functionality. These may not be the most complex semiconductors, but they are imported by firms that are engaged in complex industries such as aerospace. For instance, Thales UK, a security and transportation firm, which employs over 6000 people in the Southeast, is recorded as having imported these products in 2020.

However, it is unlikely China will continue to compete primarily at the lower-cost end of the market. Given the intense investment taking place across the country, from Xinjang to Heijiang, the trade in semiconductors is a changing picture. It is arguable that we are just at the foothills of Chinese dominance in this bedrock of the fourth industrial revolution. For, rather than seek parity with the USA in current semiconductor capacity, China has the stated ambition of 'leapfrogging' current market leaders through intense government support for the next generation of semiconductors; otherwise known as the "third generation". Many in the Chinese sector, such as the managing director of Yunxiu Capital, see rapid advancement in semiconductor technology as the means through which to achieve supremacy in the industries of the future.<sup>87</sup>

<sup>85</sup> Newport Wafer Fab takeover: Is the UK turning a blind eye? - Tech Monitor

<sup>86</sup> Fears of Chinese takeover at Welsh semiconductor maker (verdict.co.uk)

<sup>87 &</sup>lt;u>Chinese investment in 3rd generation semiconductors to soar - Asia Financial</u>

As an industry set to grow at a CAGR of 28% between 2020 and 2025,88 and clearly growing in importance, it is crucial that the British government casts a cautious eye over the avenues through which the UK is acquiring these products. The future utility of Wideband Gap (WBG) semiconductors, such as silicon carbide (SiC), is evidenced by Tesla's decision to include an SiC-inverter in its Model 3 electric car. Other utility can be found in the charging of infrastructure, and 5G base stations. The wider bandgap of this material allows it to be placed in ever smaller, and ever faster, electronic devices; offering the ability to operate effectively at higher temperatures and higher frequencies with less energy waste.

China currently holds a 70% share of SiC's global production capacity (2.2 million tons of a global 3 million tons capacity), making the lead figure by some margin, and reflecting its early-stage investment in this technology. Despite this, capacity utilization sits somewhat dormant, at just 40%, 910,000 tons, as industry leaders patiently wait for the forthcoming surge in demand.<sup>89</sup> Even with this capacity being voluntarily withheld, China led the way in SiC exports for 2019, recording a market share worth more than the next five countries combined; 35.5% (\$294 million).<sup>90</sup>

This poses issues for democracies across the globe, not just in The United Kingdom. As China rises into the ascendancy and begins to make use of more of its currently latent production capacity it will find itself able to withhold SiC chips from its rivals' industries. Developing a national supply chain in SiC must be seen as a national priority and it is encouraging to see that early efforts have been taken in the form of the Socrates Project, funded by UKRI<sup>91</sup> seek to achieve this.

Currently China sits slightly ahead of Germany, Norway, Brazil, and South Africa as the UK's major Silicon Carbide import partners. However, it should be noted that the collected data refers to all forms of SiC, including granules and powders. As such China's position alongside these countries should not be taken to indicate that the likes of Norway offer viable alternative providers of SiC semiconductors. The strong export profiles of Norway and Brazil are instead due to the national presence of *Fiven*'s manufacturing plants. *Fiven* is the world's leading provider of Silicon Carbide powders and has only taken cursory steps into the world of SiC semiconductors. As such, it would be a fair assumption to state that these countries are not presently viable alternative import markets for third generation semiconductors, and that China is currently one of two key countries from which the UK acquires SiC semiconductors, with Germany being the other.

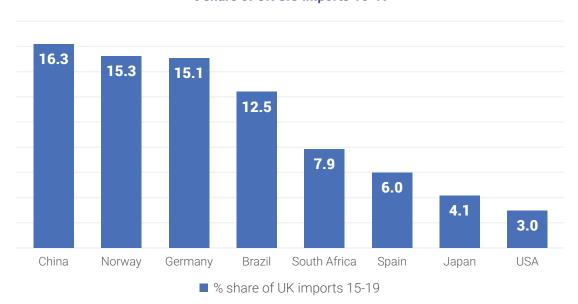
<sup>88</sup> The silicon carbide (SiC) power semiconductor market is expected to register a CAGR of 28% during the forecast period (2020 - 2025) (yahoo.com)

<sup>89</sup> China Silicon Carbide Industry Report, 2019-2025 (prnewswire.com)

<sup>90</sup> Silicon carbide (HS: 284920) Product Trade, Exporters and Importers | OEC - The Observatory of Economic Complexity

<sup>91 &</sup>lt;u>UK's SOCRATES project aims to establish supply chain for high-power SiC and GaN trench devices (semiconductor-today.com)</u>

#### % share of UK SiC imports 15-19



# 7. Telecommunications Infrastructure

The UK currently has no significant players in the international telecommunications market. The demise of national brands such as Marconi, and the surge in reliance upon a tiny number of foreign companies, is the result of mismanagement from policy makers, and an apathetic attitude towards reliance on the likes of Huawei and ZTE of China. It was, after all, the relative demise of BT in the early years of the century – during the Blairite era of Beijing-courtship – which opened the door for Huawei's entrance into the UK market.<sup>92</sup>

It has only been in recent years that the nation's venous system, as telecommunications infrastructure can rightfully be described, has been afforded appropriate national security considerations. The UK's telecommunications sector represents the "critical elements of [The United Kingdom's] infrastructure, the loss or compromise of which could result in a significant impact on national security, national defence, or the functioning of the state."93

It was therefore of great concern last year when the government proceeded with placing Huawei at the heart of the UK's 5G network. Ultimately this decision was reversed, but the initial decision was indicative of the bind in which policy makers currently find themselves. In 2019, the Department of Culture, Media and Sport had highlighted the national security issues which would stem from a lack of supply chain diversity: "The lack of diversity across the telecoms supply chain creates the possibility of national dependence on single suppliers, which itself poses a range of risks to the security and resilience of UK telecoms networks." Yet despite this forewarning, the Government had little sovereign ability to change suppliers and to move away from Huawei.

To remedy this, the Government's "5G Supply Chain Diversification Strategy" of November 2020, and the findings of the "Telecoms Diversification Taskforce" – released earlier this year – are staging posts that point in the right direction. The emphasis on more proactive efforts in technical standards bodies, domestic R&D, operator declarations of single-source dependencies, as well as a recognition that vertical industrial strategy policies may be required, are all measures which would boost domestic capacity. However, much more should be done within the context of the bilateral UK-China relationship, to eradicate the dangerous dependencies in UK telecommunication supply chains.

Between 2015 and 2021, the amount of equipment imported from China under HS code 8517 has risen from £2.5 billion (22.6% of total imports) to £6.2 billion (43% of total imports). This rise has seen China surpass the European Union as the primary source for UK telecommunications equipment. Two key reasons can be attributed to this surge, the first

<sup>92</sup> How Huawei used the UK to become a global giant | Financial Times (ft.com)

<sup>93</sup> Critical National Infrastructure | CPNI

<sup>94 &</sup>lt;u>UK Telecoms Supply Chain Review Report (publishing.service.gov.uk)</u>

<sup>95 5</sup>G Supply Chain Diversification Strategy - GOV.UK (www.gov.uk)

<sup>96</sup> Telecoms Diversification Taskforce: findings and report - GOV.UK (www.gov.uk)

being the notable Chinese investment in the production of this equipment, and the growth of SOEs Huawei and ZTE. "China's state backing for Huawei and ZTE allowed the two of them to seize global market share from far more innovative non-Chinese telecom equipment companies by severely limiting their competitors' access to China and related markets" 97

Secondly, the EU's global export performance has plateaued and ultimately shrunk since 2015, from \$24 billion to £21.6 billion in 2019 the year before the p.andemic. In 2020 this figure fell further still to £20.2 billion. In contrast, China has seen a rise in the value of its global telecommunications exports, from \$195 billion in 2014, before reaching \$224 billion in 2019.

#### Radio Access Networks - Moving towards Open-RAN

The government's stated position is to move UK telecommunications towards an Open-RAN network. Such a move will dismantle the 'lock in' effects of telecommunications, which has granted China's major telecoms SOEs, Huawei and ZTE, such a significant market share. In 2020, these two organs of the Chinese state held 41% of the global RAN market, an increase of 4% from just a year earlier.<sup>98</sup>

Further, in 2020, the combined base station market share of Huawei and ZTE combined was over 50% for the first time and Huawei had surpassed Eriksson to become the globe's leading vendor of this equipment. 99 This paints a picture of the difficulty, but nonetheless essential task, which faces UK policymakers as they attempt to reduce British dependency. There are three major parts of a telecommunications basestation; the Remote Radio Heads, the Baseband Unit, and the antenna.

#### **Remote Radio Heads**

Remote Radio Heads (RRH) provide the Radio-Frequency functionality of Radio Access Networks, sitting atop of base stations. Their development and evolution have provided improved efficiency and cost savings in the telecommunications sector. Indeed, it is within the development of RRHs that future strides in telecommunications will be taken. Progress in this field, such as the development of the Evenstar B3 RRH, <sup>100</sup> is vital in the march towards Open-RAN interoperability networks. <sup>101</sup> It is the development of Open-RAN which will be crucial if the UK Government is to fulfil its objective of ending UK reliance on Huawei by the end of 2027, a point noted during the recent supply chain review. Acute awareness must also be given that the UK must not allow itself to simple exchange reliance upon Huawei for reliance upon the questionable 5G provisions of Erikson and Nokia. It is for this reason that the recent NeutrORAN project<sup>102</sup> – carried out between the Department of Culture Media and Sport, and Japanese multinational NEC is such a vital step. <sup>103</sup> Similarly, the pivot to Open-

<sup>97</sup> How China's Mercantilist Policies Have Undermined Global Innovation in the Telecom Equipment Industry LITIE

<sup>98 &</sup>lt;u>Huawei, ZTE boost global infrastructure market share - Mobile World Live</u>

<sup>99</sup> Global mobile base station vendor market share 2020 | Statista

<sup>100</sup> Mavenir and MTI deliver first Evenstar open RAN radio | FierceWireless

<sup>101</sup> After Huawei, Europe's telcos want 'open' 5G networks - POLITICO

<sup>102</sup> NeutrORAN (uk5g.org)

<sup>103</sup> UK moves to lead in Open RAN (uk5g.org)

RAN should be seen as a way through which UK manufacturers can be reintroduced into the telecommunications architecture. Firms, such as Lime Microsystems in Guildford, represent potential equipment suppliers that would allow the UK to avoid exclusive reliance on either Chinese, or Nordic, companies. In this instance, Vodaphone – the Mobile Operating Network taking the lead on moving away from a single-vendor relationship – should be encouraged in its pursuit of domestic firms.

Currently, the RRHs themselves (imported under HS6 code: 851762), have a distinct dearth of suitable vendors. Without significant improvements in domestic capacity the UK risks sleepwalking into an unbeknown reliance on Chinese, Taiwanese, and Hong Kong imports – all of which have accompanying vulnerabilities. European global exports in this field have spluttered over the last several years, whilst China's have grown 66%. <sup>104</sup> Europe, once the primary source of UK imports for RRHs, looks set to suffer an increasing decline in the global export market and this has begun to manifest itself in the UK's import profile. In the year 2020/2021, the UK imported 28.57% of all goods under category 851762 from China (£1.5 billion) up from just 17% two years earlier, whereas the EU has fallen from near 50% to just over 35%.

As mentioned previously, RRHs produced by Chinese SOEs are likely to be resistant to systems that have open competition at their heart. Their products are designed by their very nature to be used as part of single-vendor infrastructure sets. Therefore, the products currently imported under this HS code, such the Chinese SOE ZTE's Remote Radio Unit 'R8872A', '105 are unlikely to be suitable long-term options for any country wishing to move towards an Open-RAN framework. This would therefore necessitate supply chain diversification and engagement with emerging and existing stakeholders. Early evidence suggests that such multiplicity of RRH vendors may be available sooner rather than later, with some estimates suggesting that the number has risen rapidly to 20 companies that are able to provide, or will soon be able to provide, network mobile radio units. <sup>106</sup>

#### **Baseband Unit**

Connected to the RRH, via optical fibres, are the baseband units (BBUs) that process the data received by the radar and then subsequently communicate through the physical interface.

China has faced concerns over the provision in BBUs in recent years and has made concerted efforts of late to reduce dependency upon the West. This is reflected in the city of Shenzhen's recent measures; designed to encourage technological breakthroughs in telecommunications devices including baseband units. <sup>107</sup> Similarly, Huawei has recently been adjudged to be the global leader in the provision of BBUs (incidentally, Huawei was also found to be the international leader across every metric of its RAN portfolio). <sup>108</sup>

Imported under HS6 code 851770, baseband units fall within a category of goods that are

<sup>104</sup> UN Comtrade | International Trade Statistics Database

<sup>105</sup> ZTE R8872AS1900 Macro Radio Remote Unit User Manual ZXSDR R8872A Product Description

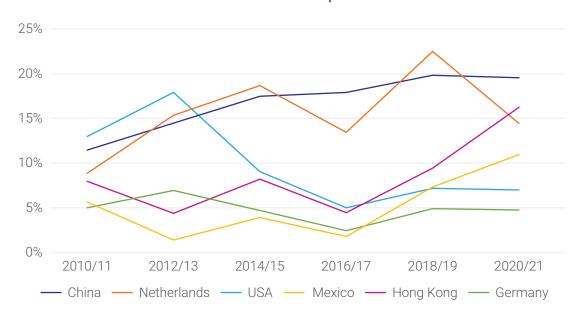
<sup>106</sup> Open RAN radio unit vendor landscape witnesses rapid growth - GlobalData

<sup>107</sup> Shenzhen aims for 5G chip breakthroughs, 6G research - Global Times

<sup>108</sup> GlobalData LTE RAN Innovation and Competitiveness Insight (prnewswire.com)

predominantly imported from China. In 2021/2021, China was the largest import market of baseband units for the UK, with imports of over £123 million accounting for one fifth of the total. Whereas China's share of this market has grown consistently since 2011, other major providers such as the Netherlands have moved in the opposite direction. Most strikingly is the involatile nature of this relationship, showing a steady and constant increase when compared to the erratic surges and dips in demand from the likes of Netherlands and Mexico.

#### **Baseband Unit imports**



## 8. UK Policy Measures

**BEIS and Treasury:** The Department for Business, Energy and Industrial Strategy must look to replace the UK's Industrial Strategy, that was abolished in the budget earlier this year. The proposals set out in 2018, by an administration lacking in ambition, have thankfully been withdrawn, but must now be replaced by a new vision. Greater focus must be placed on domestic capacity in manufacturing, and the fundamental requirement to ensure that as many end purchasers have the opportunity to include a British firm in their supply Chain. The IBN has set out proposals to this end in our Industry and Trade Strategy, <sup>109</sup> released at the end of last year, to boost the international competitiveness of UK manufacturing, and therefore boost the ability to remove Chinese maleficence from supply chains. The proposals of this strategy were: the gradual reduction in the UK's corporation tax rate, a readjustment of the value of the pound, the creation of a National Investment Bank, a removal of EU regulations that have hamstrung the growth of Artificial Intelligence, and a more holistic strategy for encouraging British exports.

Outside the European Union the UK should begin steps to develop a more modern system for data classification. Continuing to found its system upon the UN's harmonised system, used by all nations, HMRC should consider measures to improve the utility of the data it collects. Current CN8 categories do not reflect the true complexities of UK trade and the broad-brush approach to categorisation places limits on the true potential that can be exacted from UK trade data.

BEIS should seek to engage with the British Standards Institute to ensure that the organisation has a coordinated approach to the international standards bodies, and that it seeks to engage with the standards setting bodies of Anglosphere countries with a similar business culture in a cooperative fashion, whilst moving away from European Standardisation Bodies such as the CEN,

**FCO:** The foreign office must be unequivocal in its tilt to the Indo-Pacific and must not do so half-heartedly. Instead, the Foreign Secretary must be explicit that the UK is to pursue a 'Free and Open Indo-Pacific strategy', as set out in the IBN's previous paper 'Beyond Europe', <sup>110</sup> to maintain pressure on Chinese attempts to undermine the rules based international order. It must include a vociferous defence of allies' sovereignty, a constant naval presence with regular Freedom of Navigation exercises, proactive alliance building to mitigate against Chinese attempts to draw Southeast Asian states into its sphere of influence, and a recognition that the USA and Japan are more important allies than the European Union. Many members of the EU, including the larger economies, are signatories to MoUs surrounding the neo-imperial Belt and Road Initiative. Other groupings have established their own political forums with the CCP leadership, such as the Central and Eastern European Countries, that benefit greatly from Chinese investment and are unlikely to support decisive action which jeopardises that.

<sup>109</sup> THE INDEPENDENT BUSINESS NETWORK: INDUSTRIAL & TRADE STRATEGY – Independent Business Network (theibn.org.uk)

<sup>110</sup> Moving beyond Europe: The role of an independent United Kingdom in the Indo-Pacific region - Foundation For Independence

The FCO should make moves to show greater support for Taiwan, especially in light of the Covid-19 pandemic. The current relationship between the UK and Taiwan, which has been defined through the prism of relations with China, is an economic drag and does not allow for full exploration of the economic ties between our two nations.

Foreign aid must not be given to the Chinese Communist Party. Significant steps have been taking on this front, by reducing the amount of aid sent to China by 90%. However, by ceasing the send aid completely, the foreign office would be sending a clear message to the international community that The United Kingdom no longer recognises China as a 'developing' nation, with all the benefits and reduced expectations which accompany that status. Instead it will necessitate a greater exploration amongst allies of the role China is expected to adopt as it continues its growth to become the world's biggest economy.

The UK must adopt a more strident culture of condemnation towards Chinese trade indiscretions. This includes labelling the country a "current manipulator", supporting allies that bring cases against China to the WTO appellate body, and being prepared to initiate cases itself.

**DIT:** The benefits of free trade arrangements should continue to be sought as The United Kingdom enjoys its newly gained freedoms outside the European Union. These deals must include a political forum.

Inward Investment must be properly screened from China, and to this end the Trade Remedies Authority, must pursue unfair trade practices. The CMA and Secretary of State must become more alive to the public interest dimensions of investment in the UK, especially takeover. Too often Chinese capital is injected into young start-ups which are yet to have a considerable market presence but could be anticipated to have one on the forthcoming years. However, investment in these embryonic, high potential firms, is currently taking place without appropriate oversight.

The UK should adopt a 'China Plus One' strategy in a similar vein to other Indo-Pacific states. This strategy would seek to diversify supply chains by looking to encourage overseas manufacturers to establish a presence outside of China. For example, Japan introduced a \$2billion package last year that sought to encourage companies involved in its supply chains to move out of China and into other Southeast Asian states.<sup>111</sup>

## APPENDIX

Below is the list of all products where at least 50% of all UK imports came from China in the 12 months since the start of the Covid-19 pandemic.

#### LIVE ANIMALS

03032300 Frozen tilapia "Oreochromis spp."	75.02%
03046100 Frozen fillets of tilapia "Oreochromis spp."	65.40%
03047110 Frozen fillets of cod "Gadus macrocephalus"	61.58%
03047419 Frozen fillets of hake "Merluccius spp." (excl. cape hake, deepwater hake and Argentine hake)	61.82%
03047500 Frozen fillets of Alaska pollack "Theragra chalcogramma"	65.19%
03048949 Frozen fillets of mackerel "Scomber scombrus, Scomber japonicus" and fish of the species Orcynopsis unicolor	70.42%
03049929 Frozen meat "whether or not minced" of redfish "Sebastes spp." (excl. fillets)	65.30%
03053211 Fillets, dried, salted or in brine, but not smoked, of cod "Gadus macrocephalus"	77.44%
03053290 Fillets, dried, salted or in brine, but not smoked, of fish of the families Bregmacerotidae, Euclichthyidae, Gadidae, Macrouridae, Melanonidae, Merlucciidae, Moridae and Muraenolepididae (excl. cod and Boreogadus saida)	99.62%
03054980 Smoked fish, incl. fillets (excl. offal, Pacific salmon, Atlantic salmon, Danube salmon, herring, lesser or Greenland halibut, Atlantic halibut, mackerel, trout, tilapia, catfish, carp, eels, Nile perch and snakeheads)	90.20%
03074391 Squid "Ommastrephes spp., Nototodarus spp., Sepioteuthis spp.", frozen (excl. "Ommastrephes sagittatus")	79.46%
03074392 Squid "Illex spp.", frozen	54.30%
03074395 European flying squid "Todarodes sagittatus, Ommastrephes sagittatus", frozen	60.16%
03074399 Cuttle fish and squid, frozen, with or without shell (excl. "Sepia officinalis, Rossia macrosoma, Sepiola spp., Loligo spp., Ommastrephes spp., Nototodarus spp., Sepioteuthis spp., Illex spp., Todarodes sagittatus")	81.38%
03074950 Squid "Ommastrephes spp., Nototodarus spp., Sepioteuthis spp.", smoked, dried, salted or in brine (excl. "Ommastrephes sagittatus")	57.63%
03074980 Cuttle fish and squid, smoked, dried, salted or in brine, with or without shell (excl. "Sepia officinalis, Rossia macrosoma, Sepiola spp., Loligo spp., Ommastrephes spp., Nototodarus spp., Sepioteuthis spp., Todarodes sagittatus")	88.72%
05010000 Human hair, unworked, whether or not washed or scoured; waste of human hair	55.94%
05029000 Badger and other brush making hair and waste thereof	95.73%
05051010 Raw feathers used for stuffing and down, whether or not de-dusted, disinfected or simply cleaned	66.63%
05080000 Coral and similar materials, shells of molluscs, crustaceans or echinoderms, cuttle-bone, powder and waste thereof, unworked or simply prepared but not otherwise worked or cut to shape	79.88%
05080090 Coral and similar materials, shells of molluscs, crustaceans or echinoderms, cuttle-bone, powder and waste thereof, unworked or simply prepared but not otherwise worked or cut to shape (excl. red coral)	76.02%

## **VEGETABLE PRODUCTS**

07123200 Dried wood ears "Auricularia spp.", whole, cut, sliced, broken or in powder, but not further prepared	67.32%
07142090 Sweet potatoes, fresh, chilled, frozen or dried, whether or not sliced or in the form of pellets (excl. fresh whole sweet potatoes used for human consumption)	85.20%
08029050 Pine "Pinus spp." nuts, fresh or dried, whether or not shelled or peeled	54.89%
09061100 Cinnamon "Cinnamomum zeylanicum Blume" (excl. crushed and ground)	53.72%
09101100 Ginger, neither crushed nor ground	76.29%
11029010 Barley flour	70.77%
11042908 Sliced, kibbled or otherwise worked barley grains (excl. rolled, flaked, hulled, pearled, and pellets and flour)	58.38%
11042989 Cereal grains, sliced, kibbled or otherwise worked (excl. barley, oats, maize, wheat and rye, and rolled, flaked, flour, pellets, hulled, pearled, not otherwise worked than kibbled, and semi- or wholly milled rice and broken rice)	90.24%
12024100 Groundnuts, in shell (excl. seed for sowing, roasted or otherwise cooked)	72.80%
12112000 Ginseng roots, fresh, chilled, frozen or dried, whether or not cut, crushed or powdered	84.17%
13021100 Opium	75.84%
14011000 Bamboos	86.31%
14012000 Rattans	85.36%
14019000 Reeds, rushes, osier, raffia, cleaned, bleached or dyed cereal straw, lime bark and other vegetable materials of a kind used primarily for plaiting (excl. bamboos and rattans)	57.34%

#### **FATS AND OILS**

15041091 Fish-liver oils and their fractions, of halibut, whether or not refined, but not chemically modified (excl. fish-liver oils with vitamin A content <= 2.500 international units per g)	100.00%
15043090 Marine mammal fats, oils and their liquid fractions, whether or not refined (excl. chemically modified)	95.71%
15050090 Wool grease and fatty substances derived therefrom, incl. lanolin (excl. crude wool grease)	51.12%
15219010 Spermaceti, whether or not refined or coloured	97.58%
15219091 Beeswax and other insect waxes, crude	93.93%
15219099 Beeswax and other insect waxes, whether or not refined or coloured (excl. crude)	62.84%

# PREPARED FOODSTUFFS, ALCOHOL, TOBACCO

16041700 Prepared or preserved eels, whole or in pieces (excl. minced)	56.82%
16054000 Crustaceans, prepared or preserved (excl. smoked, crabs, shrimps, prawns and lobster)	64.75%
20059100 Bamboo shoots, prepared or preserved otherwise than by vinegar or acetic acid (excl. frozen)	70.35%
20084059 Pears, prepared or preserved, containing no spirit but with added sugar, with sugar content of <= 13%, in immediate packings of a net content of > 1 kg	97.70%

20087019 Peaches incl. nectarines, prepared or preserved, containing added spirit, with sugar content of > 13% and actual alcoholic strength of > 11,85% mas, in immediate packings of a net content > 1 kg	96.74%
20089941 Ginger, prepared or preserved, containing no spirit but with added sugar, in immediate packings of a net content of > 1 kg	81.95%

#### **MINERAL PRODUCTS**

25041000 Natural graphite in powder or in flakes	63.88%
25061000 Quartz (excl. quartz sands)	63.16%
25251000 Crude mica and mica rifted into sheets or splittings	71.74%
25292200 Fluorspar containing by weight > 97% calcium fluoride	96.06%
26012000 Roasted iron pyrites	74.00%
26190090 Slag, dross, scalings and other waste from the manufacture of iron or steel (excl. granulated slag, waste suitable for the recovery of iron or manganese)	100.00%
27112900 Hydrocarbons in gaseous state, n.e.s. (excl. natural gas)	65.97%

#### **CHEMICAL AND ALLIED INDUSTRIES**

28051910 Strontium and barium	67.51%
28053030 Europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium and yttrium, of a purity by weight of >=95% (excl. intermixtures and interalloys)	95.18%
28053040 Scandium, of a purity by weight of >=95% (excl. intermixtures and interalloys)	100.00%
28181091 Artificial corundum, whether or not chemically defined, with $< 50 \%$ of the total weight having a particle size $> 10$ mm (excl. with an aluminium oxide content $>= 98,5\%$ by weight "high purity")	76.87%
28199010 Chromium dioxide	71.80%
28256000 Germanium oxides and zirconium dioxide	67.27%
28299010 Perchlorates (excl. inorganic or organic compounds of mercury)	54.03%
28299040 Bromates of potassium or of sodium	86.24%
28366000 Barium carbonate	51.80%
28491000 Carbides of calcium, whether or not chemically defined	72.10%
28499010 Carbides of boron, whether or not chemically defined	68.36%
29033924 Pentafluoroethane and 1,1,1-trifluoroethane	64.86%
29037760 Trichlorofluoromethane, dichlorodifluoromethane, trichlorotrifluoroethanes, dichlorotetrafluoroethanes and chloropentafluoroethane	100.00%
29062900 Aromatic cyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives (excl. benzyl alcohol)	86.99%
29071510 1-Naphthol	76.74%
29081900 Derivatives containing only halogen substituents and their salts, of phenols or phenol-alcohols (excl. pentachlorophenol [ISO])	58.50%
29094911 2-"2-Chloroethoxy"ethanol	55.65%
29121200 Ethanal "acetaldehyde"	65.08%
29124100 Vanillin "4-hydroxy-3-methoxybenzaldehyde"	53.95%
29125000 Cyclic polymers of aldehydes	64.00%
29146200 Coenzyme Q10 "ubidecarenone "INN""	81.93%

29146980 Quinones (excl. anthraquinone, coenzyme Q10 "ubidecarenone "INN"" and 1,4-naphthoquinone)	61.48%
29163400 Phenylacetic acid and its salts	88.56%
29171310 Sebacic acid	67.48%
29171390 Azelaic acid, their salts and esters and salts and esters of sebacic acid	55.91%
29171910 Malonic acid, its salts and esters	71.03%
29189940 2,6-Dimethoxybenzoic acid; dicamba (ISO); sodium phenoxyacetate	97.25%
29201100 Parathion "ISO" and parathion-methyl "ISO" "methyl-parathion"	97.09%
29201900 Thiophosphoric esters "phosphorothioates" and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives (excl. parathion [ISO] and parathionmethyl [ISO] [methyl-parathion])	81.23%
29202400 Triethyl phosphite	99.60%
29214100 Aniline and its salts (excl. inorganic or organic compounds of mercury)	58.61%
29214200 Aniline derivatives and their salts	89.91%
29215111 m-Phenylenediamine of a purity by weight of >= 99% and containing <= 1% by weight of water, <= 200 mg/kg of o-phenylenediamine and <= 450 mg/kg of p-phenylenediamine	99.80%
29222100 Aminohydroxynaphthalenesulphonic acids and their salts	74.62%
29269070 Nitrile-function compounds (excl. acrylonitrile, 1-cyanoguanidine "dicyandiamide", fenproporex "INN" and its salts, methadone "INN"-intermediate "4-cyano-2-dimethylamino-4,4-diphenylbutane", alpha-Phenylacetoacetonitrile and isophthalonitrile)	56.42%
29311000 Tetramethyl lead and tetraethyl lead	62.22%
29313950 Etidronic acid "INN" "1-hydroxyethane-1,1-diphosphonic acid" and its salts	79.28%
29321400 Sucralose	69.88%
29331110 Propyphenazone	92.50%
29331910 Phenylbutazone "INN"	83.20%
29333935 2-Hydroxyethylammonium-3,6-dichloropyridine-2-carboxylate	100.00%
29334910 Halogen derivatives of quinoline; quinolinecarboxylic acid derivatives	95.81%
29335200 Malonylurea "barbituric acid" and its salts	96.97%
29335920 1,4-Diazabicyclo[2.2.2]octane "triethylenediamine"	65.77%
29352000 N-Ethylperfluorooctane sulphonamide	86.71%
29359030 3-{1-[7-(Hexadecylsulphonylamino)-1H-indole-3-yl]-3-oxo-1H,3H-naphtho[1,8-cd]pyran-1-yl}-N,N-dimethyl-1H-indole-7-sulphonamide; metosulam "ISO"	92.11%
29362600 Vitamin B12 and its derivatives, used primarily as vitamins	55.36%
29381000 Rutoside "rutin" and its derivatives	54.43%
29412030 Dihydrostreptomycin, its salts, esters and hydrates	99.92%
29414000 Chloramphenicol and its derivatives; salts thereof	57.07%
30059010 Wadding and articles of wadding, impregnated or coated with pharmaceutical substances or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes	51.78%
30059031 Gauze and articles of gauze, impregnated or covered with pharmaceutical substances or put up for retail sale for medical, surgical, dental or veterinary purposes	70.41%
32131000 Sets of artist's, student's or signboard painter's colours, modifying tints, amusement colours and the like, in tablets, tubes, jars, bottles, pans or similar packages	60.03%

36041000 Fireworks	95.20%
38013000 Carbonaceous pastes for electrodes and similar pastes for furnace linings	76.70%
38089410 Disinfectants, based on quaternary ammonium salts, put up for retail sale or as preparations or articles (excl. goods of subheading 3808.59)	72.59%
38248800 Mixtures and preparations containing tetra-, penta-, hexa-, hepta- or octabromodiphenyl ethers	55.26%
38249915 Ion-exchangers (excl. polymers of chapter 39)	52.84%

## **PLASTICS**

39181090 Floor coverings of polymers of vinyl chloride, whether or not self-adhesive, in rolls or in the form of tiles (excl. those on a backing coated, impregnated or covered with poly"vinyl chloride")	59.56%
39222000 Lavatory seats and covers, of plastics	61.71%
39241000 Tableware and kitchenware, of plastics	50.58%
39253000 Shutters, blinds, incl. Venetian blinds, and similar articles and parts thereof, of plastics (excl. fittings and similar articles)	54.25%
39261000 Office or school supplies, of plastics, n.e.s.	58.85%
39262000 Articles of apparel and clothing accessories produced by the stitching or sticking together of plastic sheeting, incl. gloves, mittens and mitts (excl. goods of 9619)	71.12%
39264000 Statuettes and other ornamental articles, of plastics	73.39%
40025100 Latex of acrylonitrile-butadiene rubber "NBR"	56.18%
40070000 Vulcanised rubber thread and cord (excl. ungimped single thread with a diameter of $> 5$ mm and textiles combined with rubber thread, e.g. textile-covered thread and cord)	51.96%
40101100 Conveyor belts or belting, of vulcanised rubber, reinforced only with metal	66.06%
40131000 Inner tubes, of rubber, of a kind used on motor cars, incl. station wagons and racing cars, buses and lorries	71.65%
40151100 Surgical gloves, of vulcanised rubber (excl. fingerstalls)	52.38%
40169200 Erasers, of vulcanised rubber (excl. hard rubber), conditioned (excl. those simply cut to rectangular or square shape)	67.86%
40170000 Hard rubber, e.g. ebonite, in all forms, incl. waste and scrap; articles of hard rubber, n.e.s.	51.63%

## **LEATHERS**

41132000 Leather further prepared after tanning or crusting "incl. parchment-dressed leather", of pigs, without hair on, whether or not split (excl. chamois leather, patent leather and patent laminated leather, and metallised leather)	53.26%
42021291 Executive-cases, briefcases, school satchels and similar containers, with outer surface of plastic, incl. vulcanised fibre, or of textile materials (excl. those with an outer surface of plastic sheeting or moulded plastic material)	59.69%
42021299 Trunks, suitcases, vanity cases and similar cases, with outer surface of plastics or textile materials (excl. those with an outer surface of plastic sheeting or moulded plastic material, and executive-cases)	54.48%
42021910 Trunks, suitcases, vanity cases, executive-cases, briefcases, school satchels and similar containers, with outer surface of aluminium	53.77%
42021990 Trunks, suitcases, vanity cases, executive-cases, briefcases, school satchels and similar containers (excl. with outer surface of leather, composition leather, patent leather, plastics, textile materials or aluminium)	58.37%
42029215 Musical instrument cases with outer surface of plastic sheeting	60.75%

43019000 Heads, tails, paws and other pieces or cuttings of furskins suitable for use in furriery	87.62%
43021975 Tanned or dressed furskins of Astrakhan, Caracul, Persian, Broadtail or similar lamb, and Indian, Chinese, Mongolian or Tibetan lamb, whole, with or without heads, tails or paws, not assembled	52.13%
43023025 Tanned or dressed whole furskins of rabbit or hare, and pieces or cuttings thereof, assembled, without the addition of other materials (excl. 'dropped' furskins, clothing, clothing accessories and other furskin articles)	100.00%
43040000 Artificial fur and articles thereof (excl. gloves made of leather and artificial fur, footware and headgear and parts thereof, and goods of chapter 95, e.g. toys, games and sports equipment)	70.70%

#### **WOOD PRODUCTS**

WOOD PRODUCTS	
44079131 Blocks, strips and friezes of oak "Quercus spp." for parquet or wood block flooring, not assembled, of a thickness of > 6 mm, planed (excl. veneered or of plywood)	61.37%
44130000 Metallised wood and other densified wood in blocks, plates, strips or profile shapes	66.22%
44184000 Wooden shuttering for concrete constructional work (excl. plywood boarding)	63.62%
44187900 Flooring panels, assembled, of wood other than bamboo (excl. multilayer panels and panels for mosaic floors)	62.41%
44191100 Bread boards, chopping boards and similar boards, of bamboo	77.42%
44191200 Chopsticks of bamboo	85.96%
44191900 Tableware and kitchenware, of bamboo (excl. chopsticks, bread boards, chopping boards and similar boards)	80.61%
44199090 Tableware and kitchenware, of wood (excl. of bamboo or of tropical wood, interior fittings, ornaments, coopers' products, tableware and kitchenware components of wood, brushes, brooms and hand sieves)	61.27%
44211000 Clothes hangers of wood	85.95%
44219100 Articles of bamboo, n.e.s.	73.48%
45011000 Natural cork, raw or simply prepared "merely surface-worked or otherwise cleaned"	54.79%
45019000 Cork waste; crushed, powdered or ground cork	77.47%
45020000 Natural cork, debacked or roughly squared, or in square or rectangular blocks, plates, sheets or strip, incl. sharp-edged blanks for corks or stoppers	88.24%
45041091 Tiles of any shape, blocks, plates, sheets and strip, solid cylinders, incl. discs, of agglomerated cork, with a binding substance (excl. corks and stoppers)	62.32%
45041099 Tiles of any shape, blocks, plates, sheets and strip, solid cylinders, incl. discs, of agglomerated cork, without binding substance (excl. corks and stoppers)	89.25%
46012110 Mats, matting and screens, flat-woven or bound together in parallel, of plaits or similar products of plaiting materials of bamboo, worked lengthwise	69.76%
46012190 Mats, matting and screens, of bamboo plaiting materials, flat-woven or bound together in parallel (excl. those of plaits or similar products of plaiting materials worked lengthwise)	92.54%
46012290 Mats, matting and screens, of rattan plaiting materials, flat-woven or bound together in parallel (excl. those of plaits or similar products of plaiting materials worked lengthwise)	67.80%
46012990 Mats, matting and screens, of vegetable plaiting materials, flat-woven or bound together in parallel (excl. of bamboo and rattan and those of plaits or similar products of plaiting materials worked lengthwise)	63.25%

46019205 Plaits and similar products of bamboo plaiting materials worked lengthwise, whether or not assembled into strips (excl. mats, matting and screens; twine, cord and rope; parts of footware or headgear)	51.94%
46019305 Plaits and similar products of rattan plaiting materials worked lengthwise, whether or not assembled into strips (excl. twine, cord and rope; parts of footware or headgear)	74.26%
46021910 Bottle envelopes made directly from straw or from vegetable plaiting materials of heading 4601 (excl. of bamboo and rattan)	96.72%
47061000 Pulp of cotton linters	51.06%
47063000 Pulps of fibrous cellulosic bamboo material	95.19%
48172000 Letter cards, plain postcards and correspondence cards, of paper or paperboard (excl. those with imprinted postage stamps)	72.54%
48201030 Notebooks, letter pads and memorandum pads, without calendars, of paper or paperboard	53.20%
48221000 Bobbins, spools, cops and similar supports of paper pulp, paper or paperboard, whether or not perforated or hardened, for winding textile yarn	60.93%
48236100 Trays, dishes, plates, cups and the like, of bamboo paper or bamboo paperboard	57.71%
48236910 Trays, dishes and plates, of paper or paperboard (excl. of bamboo paper or bamboo paperboard)	50.12%
49090000 Printed or illustrated postcards; printed cards bearing personal greetings, messages or announcements, whether or not illustrated, with or without envelopes or trimmings	58.27%

# **TEXTILES**

50010000 Silkworm cocoons suitable for reeling	79.28%
50020000 Raw silk "non-thrown"	91.47%
50030000 Silk waste, incl. cocoons unsuitable for reeling, yarn waste and garnetted stock	86.44%
50050090 Yarn spun from silk waste (excl. unbleached, scoured or bleached, or put up for retail sale)	55.82%
50071000 Woven fabrics of noil silk	50.76%
50072011 Crêpes, containing >= 85% silk or silk waste by weight, unbleached, scoured or bleached	86.63%
50072019 Crêpes, containing >= 85% silk or silk waste by weight (excl. unbleached, scoured or bleached)	51.02%
50072021 Pongee, habutai, honan, shantung, corah and similar far eastern fabrics, wholly of silk, plain-woven, unbleached or not further processed than scoured (excl. those mixed with noil or other silk waste or with other textile materials)	81.53%
50072039 Pongee, habutai, honan, shantung, corah and similar far eastern fabrics, wholly of silk (excl. plain-woven and those mixed with noil or other silk waste or with other textile materials)	87.35%
50072041 Diaphanous fabrics "open weave" containing >= 85% silk or silk waste by weight	61.29%
50072051 Densely-woven fabrics containing >= 85% silk or silk waste by weight, unbleached, scoured or bleached (excl. crêpes, and pongee, habutai, honan, shantung, corah and similar far eastern fabrics wholly of silk)	60.26%
50079010 Woven fabrics containing predominantly, but < 85% silk or silk waste by weight, unbleached, scoured or bleached	59.86%

50079030 Dyed woven fabrics containing predominantly, but < 85% silk or silk waste by weight	52.29%
51021100 Hair of Kashmir "cashmere" goats, neither carded nor combed	54.96%
51021910 Hair of angora rabbit, neither carded nor combed	100.00%
51022000 Coarse animal hair, neither carded nor combed (excl. wool, hair and bristles used in the manufacture of brooms and brushes, and horsehair from the mane or tail)	75.52%
51033000 Waste of coarse animal hair, incl. yarn waste (excl. garnetted stock, waste of hair or bristles used in the manufacture of brooms and brushes, and of horsehair from the mane or tail)	100.00%
51040000 Garnetted stock of wool or of fine or coarse animal hair, neither carded nor combed	100.00%
51081010 Carded yarn of fine animal hair, unbleached (excl. that of wool or that put up for retail sale)	90.27%
51113010 Woven fabrics containing predominantly, but < 85% carded wool or carded fine animal hair by weight, mixed principally or solely with synthetic or artificial staple fibres and weighing $\leq$ 300 g/m <sup>2</sup>	54.70%
52041100 Sewing thread, containing >= 85% cotton by weight (excl. that put up for retail sale)	66.50%
52052700 Single cotton yarn, of combed fibres, containing >= 85% cotton by weight and with a linear density of 83,33 decitex to < 106,38 decitex "> MN 94 to MN 120" (excl. sewing thread and yarn put up for retail sale)	100.00%
52082219 Plain woven fabrics of cotton, containing $\geq$ 85% cotton by weight and weighing $\geq$ 100 g to 130 g/m², bleached, with a width of $\geq$ 165 cm	79.34%
52083219 Plain woven fabrics of cotton, containing $\geq$ 85% cotton by weight and weighing $\geq$ 100 g to 130 g/m², dyed, with a width of $\geq$ 165 cm	53.16%
52084100 Plain woven fabrics of cotton, containing >= 85% cotton by weight and weighing <= 100 g/m², made from yarn of different colours	61.41%
52084300 Woven fabrics of cotton, containing >= 85% cotton by weight and weighing <= 200 g/m², in three-thread or four-thread twill, incl. cross twill, made from yarn of different colours	68.20%
52095200 Woven fabrics of cotton, containing >= 85% cotton by weight and weighing > 200 g/m², in three-thread or four-thread twill, incl. cross twill, printed	69.85%
52121490 Woven fabrics of cotton, containing predominantly, but < 85% cotton by weight, other than those mixed principally or solely with man-made fibres or principally or solely with flax, weighing <= 200 g/m², made of yarn of different colours	60.12%
53012100 Flax, broken or scutched	100.00%
53039000 Jute and other textile bast fibres, processed but not spun; tow and waste of such fibres, incl. yarn waste and garnetted stock (excl. retted fibres of this kind, flax, true hemp and ramie)	55.89%
53061030 Single flax yarn, with a linear density of 277,8 decitex to < 833,3 decitex "> MN 12 to MN 36" (excl. put up for retail sale)	70.10%
53062010 Multiple "folded" or cabled flax yarn (excl. for retail sale)	84.03%
53082090 Hemp yarn put up for retail sale	66.97%
53109000 Woven fabrics of jute or of other textile bast fibres of heading 5303, bleached, dyed, made of yarn of different colours, or printed	50.06%
54034900 Multiple "folded" or cabled artificial filament yarn, incl. artificial monofilament of < 67 decitex (excl. sewing thread, filament yarn of viscose or cellulose acetate and yarn put up for retail sale)	65.70%
54050000 Artificial monofilament of >= 67 decitex and with a cross sectional dimension of <= 1 mm; strip and the like, e.g. artificial straw, of synthetic textile material, with an apparent width of <= 5 mm	51.84%

54060000 Man-made filament yarn, put up for retail sale (excl. sewing thread)	68.42%
54074300 Woven fabrics of yarn containing >= 85% by weight of filaments of nylon or other polyamides by weight, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, made of yarn of different colours	79.26%
54076110 Woven fabrics of yarn containing >= 85% by weight of non-textured polyester filaments, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, unbleached or bleached	81.57%
54078100 Woven fabrics of yarn containing predominantly, but < 85% synthetic filament by weight, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, mixed principally or solely with cotton, unbleached or bleached	77.41%
54078400 Woven fabrics of yarn containing predominantly, but < 85% synthetic filament by weight, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, mixed principally or solely with cotton, printed	73.04%
54079100 Woven fabrics of yarn containing predominantly, but < 85% synthetic filament by weight, incl. monofilament of >= 67 decitex and a maximum diameter of <= 1 mm, unbleached or bleached, other than those mixed principally or solely with cotton	82.38%
55063000 Acrylic or modacrylic staple fibres, carded, combed or otherwise processed for spinning	100.00%
55069000 Synthetic staple fibres carded, combed or otherwise processed for spinning (excl. acrylic, modacrylic, polyester, polypropylene, nylon or other polyamides)	87.42%
55081090 Sewing thread of synthetic staple fibres, put up for retail sale	51.09%
55094200 Multiple "folded" or cabled yarn containing >= 85% synthetic staple fibres by weight (excl. sewing thread, yarn put up for retail sale and yarn of acrylic, modacrylic, polyester, nylon or other polyamide staple fibres)	54.18%
55129100 Woven fabrics containing >= 85% synthetic staple fibres by weight, unbleached or bleached (excl. those of acrylic, modacrylic or polyester staple fibres)	97.79%
55131190 Plain woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with cotton and weighing <= 170 g/m², unbleached or bleached, with a width of > 165 cm	60.41%
55132310 Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with cotton and weighing <= 170 g/m², in three-thread or four-thread twill, incl. cross twill, dyed	84.13%
55134100 Plain woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with cotton and weighing $\neq$ 170 g/m², printed	63.74%
55134900 Woven fabrics containing predominantly, but < 85% synthetic staple fibres by weight, mixed principally or solely with cotton and weighing <= 170 g/m², printed (excl. plain woven fabrics of polyester staple fibres)	92.68%
55143030 Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with cotton and weighing > 170 g/m², in three-thread or four-thread twill, incl. cross twill, made of yarn of different colours	80.06%
55144100 Plain woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with cotton and weighing > 170 g/m², printed	86.26%
55144200 Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with cotton and weighing > 170 g/m², in three-thread or four-thread twill, incl. cross twill, printed	77.82%
55151110 Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with viscose staple fibres, unbleached or bleached	94.03%
55151130 Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with viscose staple fibres, printed	56.98%

55151190 Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with viscose staple fibres, dyed, or made of yarn of different colours	54.76%
55151210 Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with man-made filament, unbleached or bleached	94.86%
55151311 Woven fabrics containing predominantly, but < 85% polyester staple fibres by weight, mixed principally or solely with carded wool or carded fine animal hair, unbleached or bleached	100.00%
55159110 Woven fabrics containing predominantly, but < 85% synthetic staple fibres, mixed principally or solely with man-made filament, unbleached or bleached (excl. those of acrylic, modacrylic or polyester staple fibres)	93.70%
55159920 Woven fabrics containing predominantly, but < 85% synthetic staple fibres, other than those mixed principally or solely with man-made filament or cotton, unbleached or bleached (excl. those of acrylic, modacrylic or polyester staple fibres)	71.73%
55159940 Woven fabrics containing predominantly, but < 85% synthetic staple fibres, other than those mixed principally or solely with man-made filament or cotton, printed (excl. those of acrylic, modacrylic or polyester staple fibres)	79.43%
55162200 Woven fabrics containing predominantly, but < 85% artificial staple fibres, mixed principally or solely with man-made filament, dyed	56.47%
56021038 Felt in the form of stitch-bonded fibre fabrics, not impregnated, coated, covered or laminated, n.e.s. (excl. that of wool or of fine animal hair)	70.53%
56031110 Nonwovens, coated or covered, n.e.s., of man-made filaments, weighing <= 25 g/m <sup>2</sup>	64.42%
56039190 Nonwovens, whether or not impregnated or laminated, n.e.s., weighing <= 25 g/m² (excl. coated or covered or of man-made filaments)	62.92%
56039210 Nonwovens, coated or covered, n.e.s., weighing > 25 g/m² but <= 70 g/m² (excl. of man-made filaments)	59.73%
56041000 Textile-covered rubber thread and cord	50.17%
56090000 Articles of yarn, strip or the like of heading 5404 or 5405, or of twine, cordage, ropes or cables of heading 5607, n.e.s.	57.74%
57042000 Floor tiles, of felt, not tufted or flocked, with an area of > 0,3 m² but <= 1 m²	80.06%
58013100 Uncut weft pile fabrics, of man-made fibres (excl. terry towelling and similar woven terry fabrics, tufted textile fabrics and narrow woven fabrics of heading 5806)	59.59%
58013200 Cut corduroy, of man-made fibres (excl. terry towelling and similar woven terry fabrics, tufted textile fabrics and narrow woven fabrics of heading 5806)	53.16%
58013300 Cut weft pile fabrics, of man-made fibres (excl. terry towelling and similar woven terry fabrics, tufted textile fabrics and narrow woven fabrics of heading 5806)	87.73%
58023000 Tufted textile fabrics (excl. carpets and other floor coverings)	89.58%
58030010 Cotton gauze (excl. narrow woven fabrics of heading 5806)	74.22%
58030090 Gauze (excl. that of silk, silk waste or cotton, and narrow woven fabrics of heading 5806)	60.14%
58041090 Tulles and other net fabrics, patterned (excl. woven, knitted or crocheted fabrics)	59.08%
58042900 Mechanically made lace in the piece, in strips or in motifs (excl. that of manmade fibres, and fabrics of headings 6002 to 6006)	58.40%
58043000 Handmade lace in the piece, in strips or in motifs (excl. fabrics of heading 6002 to 6006)	50.51%
59019000 Tracing cloth; prepared painting canvas; buckram and similar stiffened textile fabrics of a kind used for hat foundations (excl. plastic-coated textile fabrics)	78.57%

59022090 Tyre cord fabric of high-tenacity polyester yarn, whether or not dipped or impregnated with plastic (excl. that impregnated with rubber)	53.72%
59050010 Textile wallcoverings consisting of parallel yarns, fixed on a backing of any material	69.50%
59050050 Wallcoverings of jute (excl. those consisting of parallel yarns, fixed on a backing of any material)	98.69%
59070000 Impregnated, coated or covered textile fabrics; painted canvas being theatrical scenery, studio backcloths or the like, n.e.s.	79.51%
60033010 Raschel lace of synthetic fibres, of a width of <= 30 cm (excl. those containing by weight >= 5% of elastomeric yarn or rubber thread)	96.63%
61069010 Women's or girls' blouses, shirts and shirt-blouses of wool or fine animal hair, knitted or crocheted (excl. T-shirts and vests)	51.72%
61071900 Men's or boys' underpants and briefs of other textile materials, knitted or crocheted (excl. of cotton or man-made fibres)	69.84%
61072200 Men's or boys' nightshirts and pyjamas of man-made fibres, knitted or crocheted (excl. vests and singlets)	78.41%
61079900 Men's or boys' bathrobes, dressing gowns and similar articles of textile materials, knitted or crocheted (excl. of cotton)	56.71%
61124110 Women's or girls' swimwear of synthetic fibres, knitted or crocheted, containing >= 5% by weight of rubber thread	55.15%
61130090 Garments, knitted or crocheted, impregnated, coated or covered with plastics or other materials (excl. rubberised and babies' garments and clothing accessories)	74.18%
61169900 Gloves, mittens and mitts, of textile materials, knitted or crocheted (excl. of wool, fine animal hair, cotton or synthetic fibres, impregnated, coated or covered with plastics or rubber, and for babies)	58.69%
62032310 Men's or boys' industrial and occupational ensembles of synthetic fibres (excl. knitted or crocheted)	86.06%
62032380 Men's or boys' ensembles, of synthetic fibres (not knitted or crocheted and excl. industrial and occupational clothing, tracksuits, ski ensembles and swimwear)	79.75%
62032911 Men's or boys' industrial and occupational ensembles of artificial fibres (excl. knitted or crocheted)	86.66%
62034130 Men's or boys' bib and brace overalls of wool or fine animal hair (excl. knitted or crocheted)	66.88%
62043310 Women's or girls' jackets and blazers of synthetic fibres, industrial and occupational (excl. knitted or crocheted, wind-jackets and similar articles)	70.24%
62101010 Garments made up of felt, whether or not impregnated, coated, covered or laminated (excl. babies' garments and clothing accessories)	88.32%
62101092 Single-use gowns made up of nonwovens, of a kind used by patients or surgeons during surgical procedures	75.06%
62101098 Garments made up of nonwovens, whether or not impregnated, coated, covered or laminated (excl. babies' garments, clothing accessories, and single-use gowns used during surgical procedures)	75.83%
62113341 Men's or boys' lined tracksuit tops "upper parts", of man-made fibres (not knitted or crocheted and excl. tracksuit tops with an outer shell of a single identical fabric)	51.97%
62114210 Women's or girls' aprons, overalls, smock-overalls and other industrial and occupational clothing of cotton (excl. knitted or crocheted)	52.21%
62121010 Brassières of all types of textile materials, whether or not elasticated, incl. knitted or crocheted, in a set made up for retail sale containing a brassière and a brief	58.99%
62132000 Handkerchiefs of cotton, of which no side exceeds 60 cm (excl. knitted or crocheted)	63.61%

62143000 Shawls, scarves, mufflers, mantillas, veils and similar articles of synthetic fibres (excl. knitted or crocheted)	73.19%
62144000 Shawls, scarves, mufflers, mantillas, veils and similar articles of artificial fibres (excl. knitted or crocheted)	53.71%
62152000 Ties, bow ties and cravats of man-made fibres (excl. knitted or crocheted)	80.89%
62159000 Ties, bow ties and cravats of textile materials (excl. of silk, silk waste or manmade fibres, knitted or crocheted)	54.28%
63011000 Electric blankets of all types of textile materials	92.32%
63014010 Blankets and travelling rugs of synthetic fibres, knitted or crocheted (excl. electric, table covers, bedspreads and articles of bedding and similar furnishing of heading 9404)	77.48%
63014090 Blankets and travelling rugs of synthetic fibres (excl. knitted or crocheted, electric, table covers, bedspreads and articles of bedding and similar furnishing of heading 9404)	79.89%
63019010 Blankets and travelling rugs, knitted or crocheted (excl. of wool or fine animal hair, cotton or synthetic fibres, electric, table covers, bedspreads and articles of bedding and similar furnishing of heading 9404)	78.23%
63019090 Blankets and travelling rugs of textile materials (excl. of wool or fine animal hair, cotton or synthetic fibres, knitted or crocheted, electric, table covers, bedspreads and articles of bedding and similar furnishing of heading 9404)	76.00%
63022210 Printed bedlinen of nonwovens of man-made fibres	54.40%
63023210 Bedlinen of nonwovens of man-made fibres (excl. printed)	56.49%
63025310 Table linen of nonwovens of man-made fibres	66.53%
63025390 Table linen of man-made fibres (excl. nonwovens, knitted or crocheted)	69.87%
63029310 Toilet linen and kitchen linen of nonwovens of man-made fibres (excl. floorcloths, polishing cloths, dishcloths and dusters)	54.19%
63029390 Toilet linen and kitchen linen of man-made fibres (excl. nonwovens, floorcloths, polishing cloths, dishcloths and dusters)	61.45%
63029990 Toilet linen and kitchen linen of textile materials (excl. of cotton, flax or manmade fibres, floorcloths, polishing cloths, dishcloths and dusters)	51.51%
63031900 Curtains, incl. drapes, and interior blinds, curtain or bed valances, knitted or crocheted (excl. of synthetic fibres, awnings and sunblinds)	90.41%
63039210 Curtains, incl. drapes, and interior blinds, curtain or bed valances of nonwovens of synthetic fibres (excl. awnings and sunblinds)	81.38%
63039290 Curtains, incl. drapes, and interior blinds, curtain or bed valances of synthetic fibres (excl. nonwovens, knitted or crocheted, awnings and sunblinds)	59.87%
63039990 Curtains, incl. drapes, and interior blinds, curtain or bed valances of textile materials (excl. of cotton and synthetic fibres or of nonwovens, knitted or crocheted, awnings and sunblinds)	63.96%
63041100 Knitted or crocheted bedspreads (excl. bedlinen, quilts and eiderdowns)	57.96%
63041930 Bedspreads of flax or ramie (excl. knitted or crocheted, bedlinen, quilts and eiderdowns)	86.07%
63041990 Bedspreads of textile materials (excl. of cotton, flax or ramie, knitted or crocheted, bedlinen, quilts and eiderdowns)	62.82%
63051010 Used sacks and bags, for the packing of goods, of jute or other textile bast fibres of heading 5303	75.84%
63059000 Sacks and bags, for the packing of goods, of textile materials (excl. manmade, cotton, jute or other textile bast fibres of heading 5303)	72.49%

63061900 Tarpaulins, awnings and sunblinds of textile materials (excl. of synthetic fibres and flat covers of light fabrics made up as tarpaulins)	61.42%
63062200 Tents of synthetic fibres (excl. umbrella and play tents)	65.70%
63062900 Tents of textile materials (excl. of synthetic fibres, and umbrella and play tents)	67.12%
63064000 Pneumatic mattresses of textile materials	50.88%
63069000 Camping goods of textile materials (excl. tents, awnings and sunblinds, sails, pneumatic mattresses, rucksacks, knapsacks and similar receptacles, filled sleeping bags, mattresses and cushions)	57.79%
63071030 Floorcloths, dishcloths, dusters and similar cleaning cloths, of nonwovens	59.96%
63071090 Floorcloths, dishcloths, dusters and similar cleaning cloths, of all types of textile materials (excl. knitted or crocheted and nonwovens)	58.19%
63079010 Made-up articles of textile materials, incl. dress patterns, knitted or crocheted, n.e.s.	91.28%
63079091 Made-up articles of felt, incl. dress patterns, n.e.s.	82.80%
63079092 Single-use drapes used during surgical procedures made up of nonwovens	64.11%
63079095 Protective face masks (excl. filtering facepieces FFP according to EN149, conforming to a similar standard for masks as respiratory protective devices to protect against particles)	52.74%
63079098 Made-up articles of textile materials, incl. dress patterns, n.e.s. (excl. of felt, knitted or crocheted, single-use drapes used during surgical procedures made up of nonwovens, and protective face masks)	88.58%

#### **OTHER CLOTHING**

64029190 Footwear covering the ankle, with outer soles and uppers of rubber or plastics (excl. incorporating a protective metal toecap, waterproof footwear of heading 6401, sports footwear, orthopaedic footwear and toy footwear)	59.69%
64029905 Footwear incorporating a protective metal toecap, with outer soles and uppers of rubber or plastics (excl. covering the ankle, waterproof footwear of heading 6401, sports footwear and orthopaedic footwear)	72.04%
64034000 Footwear, incorporating a protective metal toecap, with outer soles of rubber, plastics, leather or composition leather and uppers of leather (excl. sports footwear and orthopaedic footwear)	70.69%
64041910 Slippers and other indoor footwear, with outer soles of rubber or plastics and uppers of textile materials (excl. tennis shoes, gym shoes, training shoes and the like, and toy footwear)	66.92%
64052091 Slippers and other indoor footwear with uppers of textile materials (excl. with outer soles of rubber, plastics, leather or composition leather, and toy footwear)	93.33%
64062010 Outer soles and heels of rubber	57.25%
65010000 Hat-forms, hat bodies and hoods of felt, neither blocked to shape nor with made brims; plateaux and manchons, incl. slit manchons, of felt	65.49%
65040000 Hats and other headgear, plaited or made by assembling strips of any material, whether or not lined or trimmed (excl. headgear for animals, and toy and carnival headgear)	56.39%
65069100 Bathing caps, hoods and other headgear, whether or not lined or trimmed, of rubber or plastics (other than safety headgear and headgear having the character of toys or festive articles)	52.72%
65069990 Headgear, whether or not lined or trimmed, n.e.s.	53.08%
66011000 Garden or similar umbrellas (excl. beach tents)	82.34%
66019100 Umbrellas having a telescopic shaft (excl. toy umbrellas)	71.65%

66019920 Umbrellas and sun umbrellas, incl. walking-stick umbrellas, with a cover of woven textile materials (excl. umbrellas having a telescopic shaft, garden umbrellas and the like, and toy umbrellas)	61.02%
66019990 Umbrellas and sun umbrellas, incl. walking-stick umbrellas (excl. umbrellas with a cover of woven textile materials and umbrellas having a telescopic shaft, garden umbrellas and the like, and toy umbrellas)	78.08%
66032000 Umbrella frames, incl. frames mounted on shafts "sticks", for umbrellas and sun umbrellas of heading 6601	77.04%
67021000 Artificial flowers, foliage and fruit and parts thereof, and articles made of artificial flowers, foliage or fruit, by binding, glueing, fitting into one another or similar methods, of plastics	89.79%
67029000 Artificial flowers, foliage and fruit and parts thereof, and articles made of artificial flowers, foliage or fruit, by binding, glueing, fitting into one another or similar methods (excl. of plastics)	77.43%
67042000 Wigs, false beards, eyebrows and eyelashes, switches and the like, of human hair, and articles of human hair, n.e.s.	82.27%
67049000 Wigs, false beards, eyebrows and eyelashes, switches and the like, of animal hair or textile materials (excl. synthetic textile materials)	75.04%

#### **STONE AND GLASS**

68101190 Building blocks and bricks of cement, concrete or artificial stone, whether or not reinforced (excl. of light concrete with a basis of crushed pumice, granulated slag, etc.)	64.87%
68101900 Tiles, flagstones, bricks and similar articles, of cement, concrete or artificial stone (excl. building blocks and bricks)	54.36%
68118900 Articles of cellulose fibre-cement or the like, not containing asbestos (excl. corrugated and other sheets, panels, tiles and similar articles)	64.47%
68129910 Fabricated asbestos fibres; mixtures with a basis of asbestos or with a basis of asbestos and magnesium carbonate (excl. of crocidolite asbestos)	59.00%
68159100 Articles of stone or other mineral substances, n.e.s. containing magnesite, dolomite or chromite	63.13%
68159900 Articles of stone or other mineral substances, n.e.s. (excl. containing magnesite, dolomite or chromite and articles of graphite or other carbon)	58.33%
69131000 Statuettes and other ornamental articles of porcelain or china, n.e.s.	71.32%
69139093 Statuettes and other ornamental articles of earthenware or fine pottery, n.e.s.	61.46%
69139098 Statuettes and other ornamental ceramic articles, n.e.s. (excl. of porcelain or china, common pottery, earthenware or fine pottery)	73.80%
70023900 Tubes of glass, unworked (excl. tubes of glass having a linear coefficient of expansion <= $5 \times 10$ -6 per kelvin within a temperature range of 0°C to 300°C or of fused quartz or other fused silica)	50.41%
70051025 Float glass and surface ground or polished glass, in sheets, having an absorbent or reflecting layer, but not otherwise worked, of a thickness of <= 3,5 mm (excl. wired glass)	66.68%
70071190 Toughened "tempered" safety glass, of size and shape suitable for incorporation in aircraft, spacecraft, vessels or other vehicles (excl. motor vehicles)	62.11%
70071910 Toughened "tempered" safety glass, enamelled	58.57%
70099100 Glass mirrors, unframed (excl. rear-view mirrors for vehicles, optical mirrors, optically worked, mirrors > 100 years old)	62.97%
70099200 Glass mirrors, framed (excl. rear-view mirrors for vehicles, optical mirrors, optically processed, and mirrors of an age of > 100 years)	76.42%

70102000 Stoppers, lids and other closures, of glass	62.50%
70109061 Carboys, flasks, jars, pots, phials and other containers, of glass, of a kind used for the commercial conveyance or packing of foodstuffs and beverages, of a nominal capacity of $>= 0.25 \text{ l but} < 2.5 \text{ l (excl. bottles)}$	51.60%
70134190 Glassware of lead crystal, of a kind used for table or kitchen purposes, gathered mechanically (excl. articles of heading 7018, drinking glasses, glass preserving jars "sterilising jars", vacuum flasks and other vacuum vessels)	53.36%
70161000 Glass cubes and other glass smallwares, whether or not on a backing, for mosaics or similar decorative purposes (excl. finished panels and other finished decorative motifs, made from glass cubes for mosaics)	72.58%
70181019 Glass beads (excl. beads, cut and mechanically polished, and articles thereof)	58.84%
70181051 Imitation precious and semi-precious stones of glass, cut and mechanically polished (excl. articles thereof)	92.04%
70181059 Imitation precious and semi-precious stones of glass (excl. beads, cut and mechanically polished, and articles thereof)	62.90%
70181090 Imitation coral and similar glass smallwares (excl. articles thereof and imitation pearls, precious and semi-precious stones)	50.85%
70189010 Glass eyes, articles of glass beads, or of imitation pearls, imitation precious or semi-precious stones, or of other glass smallwares (excl. prosthetic articles and imitation jewellery)	83.44%
70189090 Statuettes and other ornaments of lamp-worked glass (excl. imitation jewellery)	71.88%
70200080 Articles of glass, n.e.s.	76.45%

### **PRECIOUS STONES**

71041000 Quartz, piezoelectric, of synthetic or reconstructed stone whether or not worked or graded, but not mounted or set	58.28%
71110000 Base metals, silver or gold, clad with platinum, not further worked than semi-manufactured	59.12%

## **BASE METALS**

72025000 Ferro-silico-chromium	100.00%
72029910 Ferro-phosphorus	50.02%
72072019 Semi-finished products of iron or non-alloy steel, containing by weight >= 0,25% carbon, of square or rectangular cross-section, the width < twice the thickness, forged	100.00%
72102000 Flat-rolled products of iron or non-alloy steel, of a width of >= 600 mm, hot-rolled or cold-rolled "cold-reduced", plated or coated with lead, incl. terne-plate	100.00%
72209020 Flat-rolled products of stainless steel, of a width of < 600 mm, hot-rolled or cold-rolled "cold-reduced" and further worked, perforated	73.17%
73051900 Line pipe of a kind used for oil or gas pipelines, having circular cross-sections and an external diameter of > 406,4 mm, of flat-rolled products of iron or steel (excl. products longitudinally arc welded)	88.80%
73071110 Tube or pipe fittings of non-malleable cast iron, of a kind used in pressure systems	52.94%
73071910 Tube or pipe fittings of cast iron (excl. of non-malleable)	56.21%
73141900 Woven cloth, incl. endless bands, of iron or steel wire (excl. stainless and woven products of metal fibres of a kind used for cladding, lining or similar purposes)	64.40%
73144100 Grill, netting and fencing, of iron or steel wire, not welded at the intersection, plated or coated with zinc	57.30%

73158100 Stud-link of iron or steel	51.38%
73158200 Welded link chain of iron or steel (excl. articulated link chain, skid chain and stud-link chain)	56.36%
73160000 Anchors, grapnels and parts thereof, of iron or steel	64.84%
73170060 Nails, tacks, corrugated nails, staples and similar articles, of iron or steel wire (excl. nails in strips or coils, and staples in strips)	56.87%
73170080 Nails, tacks, drawing pins, corrugated nails, staples and similar articles, of iron or steel (excl. cold-pressed from wire, and staples in strips)	52.65%
73194000 Safety pins and other pins of iron or steel, n.e.s.	60.86%
73199010 Sewing, darning or embroidery needles, for use in the hand, of iron or steel	70.93%
73211200 Appliances for baking, frying, grilling and cooking and plate warmers, for domestic use, of iron or steel, for liquid fuel (excl. large cooking appliances)	84.03%
73211900 Appliances for baking, frying, grilling and cooking and plate warmers, for domestic use, of iron or steel, for solid fuel or other non-electric source of energy (excl. liquid or gaseous fuel, and large cooking appliances)	73.56%
73231000 Iron or steel wool; pot scourers and scouring or polishing pads, gloves and the like, of iron or steel	56.99%
73269030 Ladders and steps, of iron or steel	58.24%
74182000 Sanitary ware and parts thereof, of copper (excl. cans, boxes and similar containers of heading 7419, and fittings)	75.62%
76061193 Plates, sheets and strip, of non-alloy aluminium, of a thickness of >= 3 mm but < 6 mm, square or rectangular (excl. such products painted, varnished or coated with plastics)	61.34%
76152000 Sanitary ware and parts thereof, of aluminium (excl. cans, boxes and similar containers of heading 7612, and fittings)	75.80%
78019100 Unwrought lead, containing by weight antimony as the principal other element	100.00%
80070010 Tin plates, sheets and strip, of a thickness of > 0,2 mm	59.28%
81019400 Unwrought tungsten, incl. bars and rods of tungsten obtained simply by sintering	81.49%
81019910 Tungsten bars and rods (other than those obtained simply by sintering), profiles, plates, sheets, strip and foil, n.e.s.	59.09%
81029400 Unwrought molybdenum, incl. bars and rods obtained simply by sintering	56.46%
81033000 Tantalum waste and scrap (excl. ash and residues containing tantalum)	54.10%
81039010 Tantalum bars and rods (other than those obtained simply by sintering), profiles, wire, plates, sheets, strip and foil, n.e.s.	85.35%
81041100 Unwrought magnesium, containing >= 99,8% by weight of magnesium	82.67%
81041900 Unwrought magnesium, containing < 99,8% by weight of magnesium	68.19%
81043000 Magnesium raspings, turnings and granules, graded according to size; magnesium powders	73.98%
81125900 Articles of thallium, n.e.s.	100.00%
81129920 Articles of hafnium "celtium" and germanium, n.e.s.	53.81%
82014000 Axes, billhooks and similar hewing tools, with working parts of base metal (excl. ice axes)	62.86%
82023900 Circular saw blades, incl. slitting or slotting saw blades, and parts thereof, of base metal, with working parts of materials other than steel	51.53%
82051000 Hand-operated drilling, threading or tapping hand tools	70.89%

82055100 Household hand tools, non-mechanical, with working parts of base metal, n.e.s.	54.81%
82075010 Tools for drilling, interchangeable, with working parts of diamond or agglomerated diamond (excl. tools for rock-drilling or earth-boring and tools for tapping)	68.69%
82075090 Tools for drilling, interchangeable, for working materials other than metal, with working parts of materials other than diamond or agglomerated diamond (excl. tools for rock-drilling or earth-boring, wall boring and tools for tapping)	51.72%
82076050 Interchangeable tools for boring materials other than metal, with working parts of materials other than diamond or agglomerated diamond	82.82%
82079010 Interchangeable tools for hand tools, whether or not power-operated, or for machine tools, with working parts of diamond or agglomerated diamond, n.e.s.	53.20%
82111000 Sets of assorted articles of knives of heading 8211; sets in which there is a higher number of knives of heading 8211 than of any other article	75.89%
82119100 Table knives having fixed blades of base metal, incl. handles (excl. butter knives and fish knives)	55.94%
82141000 Paperknives, letter openers, erasing knives, pencil sharpeners and blades therefor, of base metal (excl. machinery and mechanical appliances of chapter 84)	53.60%
82142000 Manicure or pedicure sets and instruments, incl. nail files, of base metal (excl. ordinary scissors)	56.19%
82149000 Hair clippers, butchers' or kitchen cleavers and other articles of cutlery of base metal, n.e.s.	68.93%
82151030 Sets consisting of one or more knives of heading 8211 and at least an equal number of spoons, forks or other articles of heading 8215, of stainless steel, containing at least one article plated with precious metal	59.07%
82151080 Sets consisting of one or more knives of heading 8211 and at least an equal number of spoons, forks or other articles of heading 8215, of base metal other than stainless steel, containing at least one article plated with precious metal	76.36%
82152010 Sets consisting of one or more knives of heading 8211 and at least an equal number of spoons, forks or other articles of heading 8215, of stainless steel, containing no articles plated with precious metal	77.57%
82152090 Sets consisting of one or more knives of heading 8211 and at least an equal number of spoons, forks or other articles of heading 8215, of base metals other than stainless steel, containing no articles plated with precious metal	61.68%
82159910 Spoons, forks, ladles, skimmers, cake-servers, fish-knives, butter-knives, sugar tongs and similar kitchen or tableware of stainless steel, not plated with precious metal (excl. sets of articles such as lobster cutters and poultry shears)	51.59%
83024110 Base metal mountings and fittings suitable for doors (excl. locks with keys and hinges)	53.23%
83024150 Base metal mountings and fittings suitable for windows and French windows (excl. locks with keys and hinges)	57.73%
83024190 Base metal mountings and fittings suitable for buildings (excl. for doors, windows and French windows and locks with keys and hinges)	63.41%
83025000 Hat-racks, hat-pegs, brackets and similar fixtures of base metal	50.14%
83040000 Filing cabinets, card-index cabinets, paper trays, paper rests, pen trays, office-stamp stands and similar office or desk equipment, of base metal (excl. office furniture of heading 9403 and waste paper bins)	54.20%
83062900 Statuettes and other ornaments, of base metal, not plated with precious metal (excl. works of art, collectors' pieces and antiques)	67.09%
83063000 Photograph, picture or similar frames, of base metal; mirrors of base metal (excl. optical elements)	65.53%

## **MACHINERY**

84011000 Nuclear reactors [Euratom]	88.92%
84051000 Producer gas or water gas generators, with or without their purifiers; acetylene gas generators and similar water process gas generators, with or with purifiers (excl. coke ovens, electrolytic process gas generators and carbide lamp	
84073290 Spark-ignition reciprocating piston engine, of a kind used for the proposet vehicles of chapter 87, of a cylinder capacity of > 125 cm³ but <= 250 cm³	ulsion of 84.07%
84073320 Spark-ignition reciprocating piston engine, of a kind used for vehicles chapter 87, of a cylinder capacity $> 250~\rm cm^3$ but $<= 500~\rm cm^3$	of 68.76%
84073491 Spark-ignition reciprocating piston engine, of a kind used for vehicles chapter 87, new, of a cylinder capacity <= 1.500 cm³ but > 1.000 cm³ (excl. engin subheading 8407.34.10)	
84132000 Hand pumps for liquids (excl. those of subheading 8413.11 and 8413	.19) 62.75%
84142080 Hand-operated or foot-operated air pumps (excl. handpumps for cycle	es) 62.11%
84145100 Table, floor, wall, window, ceiling or roof fans, with a self-contained elemeter of an output $\ll$ 125 W	ectric 61.71%
84181020 Combined refrigerator-freezers, of a capacity > 340 l, fitted with separ external doors	rate 55.57%
84182151 Household refrigerators, compression-type, table model	74.64%
84182191 Household refrigerators compression-type, of a capacity <= 250 l (exc models and building-in types)	cl. table 63.63%
84182900 Household refrigerators, absorption-type	66.20%
84183020 Freezers of the chest type, of a capacity <= 400 l	63.66%
84201010 Calendering or other rolling machines, of a kind used in the textile inde	ustry 54.73%
84201081 Roll laminators of a kind used solely or principally for the manufacture printed circuit substrates or printed circuits	e of 99.19%
84211200 Centrifugal clothes-dryers	72.11%
84231010 Household scales (excl. personal weighing machines and baby scales	61.90%
84231090 Personal weighing machines, incl. baby scales	58.03%
84241000 Fire extinguishers, whether or not charged	60.09%
84243008 Water cleaning appliances with built-in motor, without heating device	72.17%
84243010 Steam or sand blasting machines and similar jet projecting machines compressed air operated	54.42%
84244100 Agricultural or horticultural sprayers, portable	53.92%
84254100 Built-in jacking systems of a type used in garages	61.41%
84261200 Mobile lifting frames on tyres and straddle carriers	58.67%
84261900 Overhead travelling cranes, transporter cranes, gantry cranes, bridge of and mobile lifting frames (excl. overhead travelling cranes on fixed support, mobile frames on tyres, straddle carriers and portal or pedestal jib cranes)	
84314200 Bulldozer or angledozer blades, n.e.s.	76.63%
84331110 Electric motor mowers for lawns, parks or sports grounds, with the cudevice rotating in a horizontal plane	utting 70.64%
84331190 Mowers for lawns, parks or sports grounds, powered non-electrically, cutting device rotating in a horizontal plane not self-propelled	with the 58.29%
84331910 Electric motor mowers for lawns, parks or sports grounds, with the cudevice rotating in a vertical plane or with cutter bars	utting 76.26%

84331970 Motor mowers for lawns, parks or sports grounds, powered non-electrically, with the cutting device rotating in a vertical plane or with cutter bars, not self-propelled	66.67%
84331990 Mowers for lawns, parks or sports grounds, without motor	59.41%
84362100 Poultry incubators and brooders	56.78%
84384000 Brewery machinery (excl. centrifuges and filtering, heating or refrigerating equipment)	58.58%
84431100 Offset printing machinery, reel fed	52.11%
84431400 Letterpress printing machinery, reel fed (excl. flexographic printing machinery)	95.86%
84451200 Combing machines for preparing textile fibres	54.48%
84459000 Machines for producing textile yarns and machines for preparing textile yarns for use on machines of heading 8446 or 8447 (excl. machines of heading 8444 and spinning, doubling or twisting machines)	66.25%
84472020 Warp knitting machines, incl. Raschel type, and stitch-bonding machines	76.38%
84490000 Machinery for the manufacture or finishing of felt or nonwovens in the piece or in shapes, incl. machinery for making felt hats; blocks for making hats; parts thereof (excl. machinery for preparing fibres for felt and calenders)	68.22%
84501200 Household or laundry-type washing machines, with built-in centrifugal drier (excl. fully-automatic machines)	69.16%
84518030 Machinery for dressing or finishing textile yarns, fabrics or other made-up textile articles (excl. machinery for dressing or finishing felt, and calenders and general purpose presses)	50.51%
84532000 Machinery for making or repairing footwear of hides, skins or leather (excl. sewing machines)	70.58%
84581900 Horizontal lathes, incl. turning centres, for removing metal, not numerically controlled	58.64%
84603900 Sharpening "tool or cutter grinding" machines, not numerically controlled	52.33%
84613090 Broaching machines for working metal, metal carbides or cermets, not numerically controlled	100.00%
84614031 Gear cutting machines, incl. abrasive gear cutting machines, not for cylindrical gears, numerically controlled, for working metals, metal carbides or cermets (excl. planing, slotting and broaching machines)	100.00%
84615011 Circular saws for working metals, metal carbides or cermets (excl. machines for working in the hand)	59.80%
84621090 Forging or die-stamping machines, incl. presses, and hammers, not numerically controlled	58.21%
84623999 Shearing machines, incl. presses, not hydraulic, not numerically controlled, for working metal (excl. machines for working flat metal products and combined punching and shearing machines)	50.63%
84659190 Sawing machines for working wood, cork, bone, hard rubber, hard plastics or similar hard materials (excl. bandsaws, circular saws and machines for working in the hand)	71.19%
84659600 Splitting, slicing or paring machines, for working wood (excl. machining centres)	58.86%
84672110 Drills of all kinds for working in the hand, with self-contained electric motor capable of operation without an external source of power	63.27%
84672199 Drills of all kinds for working in the hand, with self-contained electric motor operating with an external source of power (excl. electropneumatic drills)	69.09%
84672290 Saws for working in the hand, with self-contained electric motor (excl. chainsaws and circular saws)	62.73%

84672953 Belt sanders for working in the hand, with self-contained electric motor, operating with an external source of power	63.67%
84672959 Grinders and sanders, for working in the hand, with self-contained electric motor, operating with an external source of power (excl. angle grinders and belt sanders)	53.27%
84672970 Planers for working in the hand, with self-contained electric motor, operating with an external source of power	70.73%
84672980 Hedge trimmers and lawn edge cutters, for working in the hand, with self- contained electric motor operating with an external source of power	74.19%
84703000 Calculating machines, non-electronic	85.95%
84713000 Data-processing machines, automatic, portable, weighing <= 10 kg, consisting of at least a central processing unit, a keyboard and a display (excl. peripheral units)	75.95%
84721000 Duplicating machines "hectograph or stencil" (excl. printing machines and photocopying or thermo-copying machines)	79.04%
84752100 Machines for making optical fibres and preforms thereof	100.00%
84775100 Machinery for moulding or retreading pneumatic tyres or for moulding or otherwise forming inner tubes of rubber or plastics	58.99%
84818011 Mixing valves for sinks, washbasins, bidets, water cisterns, baths and similar fixtures	55.47%
84818039 Central heating radiator valves (excl. thermostatic valves)	53.28%
84818040 Valves for pneumatic tyres and inner-tubes	64.82%
85015290 AC motors, multi-phase, of an output > 37 kW but <= 75 kW	66.68%
85021120 Generating sets with compression-ignition internal combustion piston engine "diesel or semi-diesel engine" of an output <= 7,5 kVA	67.96%
$85022020$ Generating sets with spark-ignition internal combustion piston engine, of an output $<=7.5\ kVA$	66.88%
85041020 Inductors, whether or not connected with a capacitor	55.61%
85041080 Ballasts for discharge lamps or tubes (excl. inductors, whether or not connected with a capacitor)	52.13%
85051100 Permanent magnets of metal and articles intended to become permanent magnets after magnetization (excl. chucks, clamps and similar holding devices)	67.07%
85051910 Permanent magnets of agglomerated ferrite	70.15%
85051990 Permanent magnets and articles intended to become permanent magnets after magnetization, of materials other than metal or agglomerated ferrite	61.56%
85063000 Mercuric oxide cells and batteries (excl. spent)	94.84%
85081100 Vacuum cleaners, incl. dry cleaners and wet vacuum cleaners, with self-contained electric motor, power <= 1 500 W and having a dust bag or other receptacle capacity <= 20 I	67.07%
85081900 Vacuum cleaners, incl. dry cleaners and wet vacuum cleaners, with self-contained electric motor (excl. of a power <= 1 500 W and having a dust bag or other receptacle capacity <= 20 l)	74.32%
85086000 Vacuum cleaners, incl. dry cleaners and wet vacuum cleaners (excl. with self-contained electric motor)	80.16%
85087000 Parts of vacuum cleaners, dry cleaners and wet vacuum cleaners, n.e.s.	51.25%
85094000 Domestic food grinders and mixers and fruit or vegetable juice extractors, with self-contained electric motor	66.08%
85131000 Portable electrical lamps designed to function by their own source of energy	58.85%
85151990 Brazing or soldering machines (excl. soldering irons and guns, and wave soldering machines used in manufacturing printed circuit assemblies)	56.16%

85152900 Machines for resistance welding of metals, neither fully nor partly automatic	89.58%
85161011 Electric instantaneous water heaters	50.98%
85161080 Electric water heaters and immersion heaters (excl. instantaneous water heaters)	59.86%
85162910 Liquid filled electric radiators, for space-heating and soil-heating	56.26%
85162950 Electric convection heaters, for space-heating and soil-heating	85.55%
85162991 Electric space-heating and soil-heating apparatus, with built-in fan (excl. storage heating radiators)	59.20%
85162999 Electric space-heating and soil-heating apparatus, without built-in fan (excl. convection heaters and liquid-filled radiators)	73.27%
85163300 Electric hand-drying apparatus	64.90%
85164000 Electric smoothing irons	51.28%
85165000 Microwave ovens	74.96%
85166070 Electric grillers and roasters, for domestic use	83.48%
85166090 Electric ovens, for domestic use (excl. space-heating stoves, electric cookers incorporating at least an oven and a hob, microwave ovens and electric ovens for building in)	64.71%
85167200 Electric toasters, for domestic use	89.63%
85167920 Electric deep fat fryers, for domestic use	68.45%
85171200 Telephones for cellular networks "mobile telephones" or for other wireless networks	55.73%
85211020 Video recording or reproducing apparatus, whether or not incorporating a video tuner, for magnetic tape of a width of <= 1,3 cm and allowing recording or reproduction at a tape speed of <= 50 mm/s (excl. video camera recorders)	71.42%
85271200 Pocket-size radiocassette players [dimensions <= 170 mm x 100 mm x 45 mm], with built-in amplifier, without built-in loudspeakers, capable of operating without an external source of electric power	66.33%
85271300 Radio-broadcast receivers capable of operating without an external source of power, combined with sound recording or reproducing apparatus (excl. pocket-size radiocassette players)	54.70%
85271900 Radio-broadcast receivers capable of operating without an external source of power, not combined with sound-reproducing apparatus	58.11%
85279200 Radio-broadcast receivers, for mains operation only, not combined with sound recording or reproducing apparatus but combined with a clock (excl. those of a kind used in motor vehicles)	69.20%
85285299 Monitors designed for computer use but of a kind not used principally with a computer (excl. CRT, LCD, with TV receiver)	62.17%
85286920 Monochrome projectors (excl. with TV receiver, designed for computer use)	72.21%
85291030 Outside aerials for radio or television broadcast receivers	50.89%
85365003 Electronic AC switches consisting of optically coupled input and output circuits "insulated thyristor AC switches" (excl. relays and automatic circuit breakers)	66.60%
85366190 Lamp holders for a voltage <= 1.000 V (excl. Edison lamp holders)	64.86%
85392192 Tungsten halogen filament lamps for a voltage > 100 V	62.78%
85392290 Filament lamps of a power <= 200 W and for a voltage > 100 V (excl. tungsten halogen lamps, reflector lamps and ultraviolet or infra-red lamps)	83.95%
85392998 Filament lamps for a voltage <= 100 V (excl. tungsten halogen lamps and lamps for motorcycles and other motor vehicles)	63.62%
85395000 Light-emitting diode "LED" lamps	68.30%

85399010 Lamp bases for filament or discharge lamps and other lamps of heading 8539, n.e.s.	66.66%
85399090 Parts of electric filament or discharge lamps, sealed beam lamp units, ultraviolet or infra-red lamps, arc lamps and LED lamps, n.e.s.	58.71%
85401100 Cathode ray television picture tubes, incl. video monitor cathode ray tubes, colour	78.85%
85437003 Cordless infrared remote control devices for video game consoles	72.33%
85437005 Portable battery operated electronic readers for recording and reproducing text, still image or audio file	63.10%
85444920 Conductors, electric, for a voltage <= 80 V, insulated, not fitted with connectors, of a kind used for telecommunications, n.e.s.	56.36%

## **VEHICLES**

87019110 Agricultural tractors and forestry tractors, wheeled, of an engine power <= 18 kW (excl. pedestrian-controlled tractors)	53.90%
87024000 Motor vehicles for the transport of >= 10 persons, incl. driver, with only electric motor for propulsion	100.00%
87029031 Motor vehicles for the transport of >= 10 persons, incl. driver, with sparkignition internal combustion piston engine, of a cylinder capacity of <= 2.800 cm³, new (excl. with electric motor for propulsion)	100.00%
87031011 Vehicles specially designed for travelling on snow, for the transport of <10 persons, with internal combustion piston engine	77.63%
87111000 Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity <= 50 cm³	76.95%
87112092 Motorcycles, incl. mopeds, with reciprocating internal combustion piston engine of a cylinder capacity > 50 cm³ but <= 125 cm³ (excl. scooters)	59.61%
87116090 Motorcycles, incl. mopeds, and cycles fitted with an auxiliary motor, with electric motor for propulsion (excl. bicycles, tricycles and quadricycles, with pedal assistance, with a continuous rated power <= 250 W)	65.89%
87150010 Baby carriages	81.61%
87150090 Parts of baby carriages, n.e.s.	59.91%
87168000 Vehicles pushed or drawn by hand and other vehicles not mechanically propelled (excl. trailers and semi-trailers)	63.40%
89051010 Sea-going dredgers	100.00%

# SURGICAL INSTRUMENTS, CLOCKS, AND INSTRUMENTS

90049090 Spectacles, goggles and the like, corrective, protective or other (other than with lenses of plastics and excl. spectacles for testing eyesight, sunglasses, contact lenses, spectacle lenses and frames and mountings for spectacles)	53.07%
90085000 Image projectors, and photographic enlargers and reducers (excl. cinematographic and parts)	67.20%
90106000 Projection screens	53.94%
90153090 Non-electronic levels	66.06%
90191010 Electrical vibratory-massage apparatus	80.44%
90200000 Breathing appliances and gas masks (excl. protective masks having neither mechanical parts nor replaceable filters, and artificial respiration or other therapeutic respiration apparatus)	77.19%
90251120 Clinical or veterinary thermometers, liquid-filled, for direct reading	77.96%

90251180 Thermometers, liquid-filled, for direct reading, not combined with other instruments (excl. clinical or veterinary thermometers)	53.96%
90278080 Instruments and apparatus for physical or chemical analysis or for determining surface tension or the like, or for measuring heat or sound, n.e.s.	53.34%
91031000 Clocks with watch movements, electrically operated (excl. wrist-watches, pocket-watches and other watches of heading 9101 or 9102, and instrument panel clocks and the like of heading 9104)	50.83%
91051100 Alarm clocks, electrically operated	51.24%
91051900 Alarm clocks (excl. electrically operated)	69.64%
91052100 Wall clocks, electrically operated	84.67%
91052900 Wall clocks (excl. electrically operated)	59.97%
91059100 Clocks, electrically operated (excl. wrist-watches, pocket-watches and other watches of heading 9101 or 9102, clocks with watch movements of heading 9103, instrument panel clocks and the like of heading 9104, alarm clocks and wall clocks)	63.43%
91091000 Clock movements, complete and assembled, electrically operated (excl. watch movements)	52.25%
92019000 Harpsichords and other keyboard stringed instruments (excl. pianos)	51.28%
92021010 Violins	70.71%
92021090 String musical instruments played with a bow (excl. violins)	75.32%
92071080 Musical instruments, the sound of which is produced, or must be amplified, electrically, with keyboard (excl. organs, digital pianos, synthesisers and accordions)	62.70%

### **MISCELLANEOUS**

94013000 Swivel seats with variable height adjustments (excl. medical, surgical, dental or veterinary, and barbers' chairs)	74.49%
94014000 Seats, convertible into beds (excl. garden seats and camping equipment, and medical, dental or surgical furniture)	59.12%
94016100 Upholstered seats, with wooden frames (excl. convertible into beds)	57.27%
94017100 Upholstered seats, with metal frames (excl. seats for aircraft or motor vehicles, swivel seats with variable height adjustments and medical, dental or surgical furniture)	73.36%
94017900 Seats, with metal frames (excl. upholstered, swivel seats with variable height adjustments and medical, dental or surgical furniture)	75.43%
94018000 Seats, n.e.s.	60.90%
94031058 Metal furniture for offices, of $<=80$ cm in height (excl. desks, and tables with special fittings for drafting of heading 9017)	59.38%
94032020 Metal beds (excl. hospital beds with mechanical fittings)	74.65%
94032080 Metal furniture (excl. for offices, medical, surgical, dental or veterinary furniture, beds and seats)	68.74%
94037000 Furniture of plastics (excl. medical, dental, surgical or veterinary, and seats)	53.02%
94038200 Furniture of bamboo (excl. seats and medical, surgical, dental or veterinary furniture)	68.04%
94038300 Furniture of rattan (excl. seats and medical, surgical, dental or veterinary furniture)	57.28%
94038900 Furniture of other materials, including cane, osier or similar materials (excl. of bamboo, rattan, metal, wood and plastics, and seats and medical, surgical, dental or veterinary furniture)	52.60%

94042990 Mattresses, stuffed or internally filled with any material (excl. cellular rubber or plastics, with spring interior, and pneumatic or water mattresses and pillows)	56.95%
94043000 Sleeping bags, whether or non-electrically heated	79.22%
94049010 Articles of bedding and similar furnishing, filled with feather or down (excl. mattresses and sleeping bags)	79.64%
94051040 Electric ceiling or wall lighting fittings, of plastics or of ceramics (excl. of plastics if used with filament lamps)	63.21%
94051050 Chandeliers and other electric ceiling or wall lighting fittings, of glass	72.74%
94051091 Electric ceiling or wall lighting fittings, used with filament lamps (excl. lights or plastics, ceramics or glass)	of 75.51%
94051098 Electric ceiling or wall lighting fittings, used with discharge lamps (excl. lights of plastics, ceramics or glass)	61.14%
94052011 Electric table, desk, bedside or floor-standing lamps, of plastics, used for filament lamps	57.34%
94052040 Electric table, desk, bedside or floor-standing lamps, of plastics or ceramic materials, used for discharge lamps	79.36%
94052050 Electric table, desk, bedside or floor-standing lamps, of glass	82.14%
94052091 Electric table, desk, bedside or floor-standing lamps, used with filament lamp (excl. of plastics, ceramics and glass)	s 83.51%
94052099 Electric table, desk, bedside or floor-standing lamps, used with discharge lamps (excl. of plastics, ceramics and glass)	71.33%
94053000 Electric lighting sets of a kind used for Christmas trees	94.67%
94054031 Electric lamps and lighting fittings, of plastics, used with filament lamps, n.e.s	s. 66.32%
94054039 Electric lamps and lighting fittings, of plastics, n.e.s.	66.82%
94054091 Electric lamps and lighting fittings, used with filament lamps, n.e.s. (excl. of plastics)	60.98%
94054095 Electric lamps and lighting fittings, used with tubular fluorescent lamps, n.e.s (excl. of plastics)	70.07%
94054099 Electric lamps and lighting fittings, n.e.s. (excl. of plastics)	58.96%
94055000 Non-electrical lamps and lighting fittings, n.e.s.	84.58%
94056020 Illuminated signs, illuminated nameplates and the like, with a permanently fixed light source, of plastics	50.57%
94059110 Glass parts for electrical lighting fittings (excl. searchlights and spotlights)	50.91%
94059190 Parts of lamps and lighting fittings, illuminated signs and nameplates and the like, of glass, n.e.s.	80.00%
94059200 Parts of lamps and lighting fittings, illuminated signs and nameplates and the like, of plastics, n.e.s.	50.02%
94059900 Parts of lamps and lighting fittings, illuminated signs and nameplates and the like, n.e.s.	53.08%
95030010 Tricycles, scooters, pedal cars and similar wheeled toys, and dolls' carriages (excl. normal bicycles with ball bearings)	79.52%
95030021 Dolls representing only human beings, whether or not clothed	64.12%
95030029 Parts and accessories for dolls representing only human beings, n.e.s.	58.34%
95030039 Construction sets and constructional toys (excl. of plastic and scale model assembly kits)	66.60%
95030041 Stuffed toys representing animals or non-human creatures	67.96%
95030049 Toys representing animals or non-human creatures (excl. stuffed)	58.17%

95030055 Toy musical instruments and apparatus	67.10%
95030061 Wooden puzzles	72.37%
95030070 Toys, put up in sets or outfits (excl. electric trains, incl. accessories, scale	
model assembly kits, construction sets and constructional toys, and puzzles)	58.41%
95030075 Plastic toys and models, incorporating a motor (excl. electric trains, scale model assembly kits, and toys representing animals, human or non-human creatures)	68.82%
95030079 Toys and models, incorporating a motor (excl. plastic, electric trains, scale model assembly kits, and toys representing animals, human or non-human creatures)	67.07%
95030081 Toy weapons	64.23%
95030087 Portable interactive electronic education toy devices primarily designed for children	53.91%
95030095 Plastic toys, n.e.s.	56.52%
95030099 Toys, n.e.s.	59.47%
95042000 Billiards of all kinds and accessories	85.01%
95045000 Video game consoles and machines (excl. operated by any means of payment)	71.26%
95049010 Electric car racing sets, having the character of competitive games	65.97%
95051010 Christmas articles, of glass (excl. electric lighting sets)	69.77%
95051090 Christmas articles (excl. of glass, candles and electric lighting sets, natural Christmas trees and Christmas tree stands)	85.70%
95059000 Festival, carnival or other entertainment articles, incl. conjuring tricks and novelty jokes, n.e.s.	79.13%
95062900 Water-skis, surfboards and other water-sport equipment (other than sailboards)	56.42%
95066990 Balls (excl. inflatable, golf, table-tennis, tennis, cricket and polo balls)	55.66%
95067030 Roller skates, incl. skating boots with rollers attached	72.08%
95067090 Parts and accessories for ice skates and roller skates, n.e.s.	54.97%
95069190 Articles and equipment for general physical exercise, gymnastics or athletics (excl. exercising apparatus with adjustable resistance mechanisms)	61.83%
95069990 Articles and equipment for sport and outdoor games n.e.s; swimming and paddling pools	53.83%
95071000 Fishing rods	60.04%
95079000 Line fishing tackle n.e.s; fish landing nets, butterfly nets and similar nets; decoys and similar hunting or shooting requisites (excl. decoy calls of all kinds and stuffed birds of heading 9705)	66.14%
96032930 Hair brushes	52.63%
96032980 Shaving brushes, nail brushes, eyelash brushes and other brushes for use on the person (excl. tooth brushes, dental-plate brushes and hair brushes)	72.12%
96033010 Artists' and writing brushes	55.64%
96033090 Brushes for the application of cosmetics	56.91%
96034010 Paint, distemper, varnish or similar brushes (excl. artists' and similar brushes of subheading 9603.30)	89.96%
96034090 Paint pads and rollers	84.85%
96039010 Hand-operated mechanical floor sweepers, not motorised	51.89%
96040000 Hand sieves and hand riddles (excl. colanders)	68.60%

96050000 Travel sets for personal toilet, sewing or shoe or clothes cleaning (excl. manicure sets)	61.55%
96085000 Sets of articles from two or more of the following: ball-point pens, felt or fibre-tipped pens and markers, fountain pens and propelling pencils	77.16%
96092000 Pencil leads, black or coloured	56.85%
96099090 Pencils, writing or drawing chalks and tailors' chalks	55.98%
96100000 Slates and boards, with writing or drawing surfaces, whether or not framed	61.96%
96140010 Roughly shaped blocks of wood or root, for the manufacture of pipes	79.22%
96151100 Combs, hair-slides and the like of hard rubber or plastics	74.20%
96151900 Combs, hair-slides and the like (excl. of hard rubber or plastics)	55.69%
96159000 Hairpins, curling pins, curling grips, hair-curlers and the like, and parts thereof, n.e.s. (excl. electro-thermic appliances of heading 8516)	63.77%
96162000 Powder puffs and pads for the application of cosmetics or toilet preparations	82.50%
96170000 Vacuum flasks and other vacuum vessels, and parts thereof (excl. glass inners)	71.43%
96190050 Napkins and napkin liners for babies, and similar articles, of textile materials (excl. of wadding)	62.40%

