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A digital tomorrow

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Digital transformation is the process of integrating digital technology across different areas of a business to meet changing business and market requirements and to help improve efficiency and unlock new value for different stakeholders.

A report by the SAP Center for Business Insight and Oxford Economics found that 80% of executives at organisations who have undergone digital transformations said their efforts have resulted in increased profitability, and 85% said they have experienced increased market share.

The next wave of digital transformation

Even just three years ago, who would have imagined we can live, work and interact efficiently without being present together in a physical space. The pandemic drove a rapid adoption of digital products, as the world moved dramatically toward online channels. While the Covid-19 pandemic demonstrated the tremendous potential of digital transformation, it also exposed the jarring gaps in many areas. Governments and companies who recognised the shortfall have accelerated their digital spend during the pandemic. According to the EY-Parthenon 2022 Digital Investment Index (DII), companies continue to make record-breaking investments in bringing technology-enabled products and services to market this year, up 65% from 2020. Executives plan to allocate 5.8% of their revenues to digital-related spending as compared with 3.5% in the 2020 survey.

However, not all have followed the same pace, especially so for the small medium enterprises. According the OECD, the degree of digital adoption between SMEs and large firms has widened over the last decade. The median share of employees with connected computers in small firms remains at or below 40%. It is unlikely that economies and societies will return to the pre-Covid modus operandi, hence it becomes even more important for the laggards to embrace digital solutions in their processes to thrive in a digital tomorrow.

We believe the next leg of this digital transformation cycle will be anchored by four powerful trends: (1) Increased connectivity; (2) Data being the new oil; (3) Pushing productivity limits; and (4) New consumer behaviour, all of which are expected to create attractive multi-year investment opportunities.

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A more interconnected world

In the last 30 years, we have seen a steady growth of internet users, from just a few million in the early 1990s to almost 5 billion today.

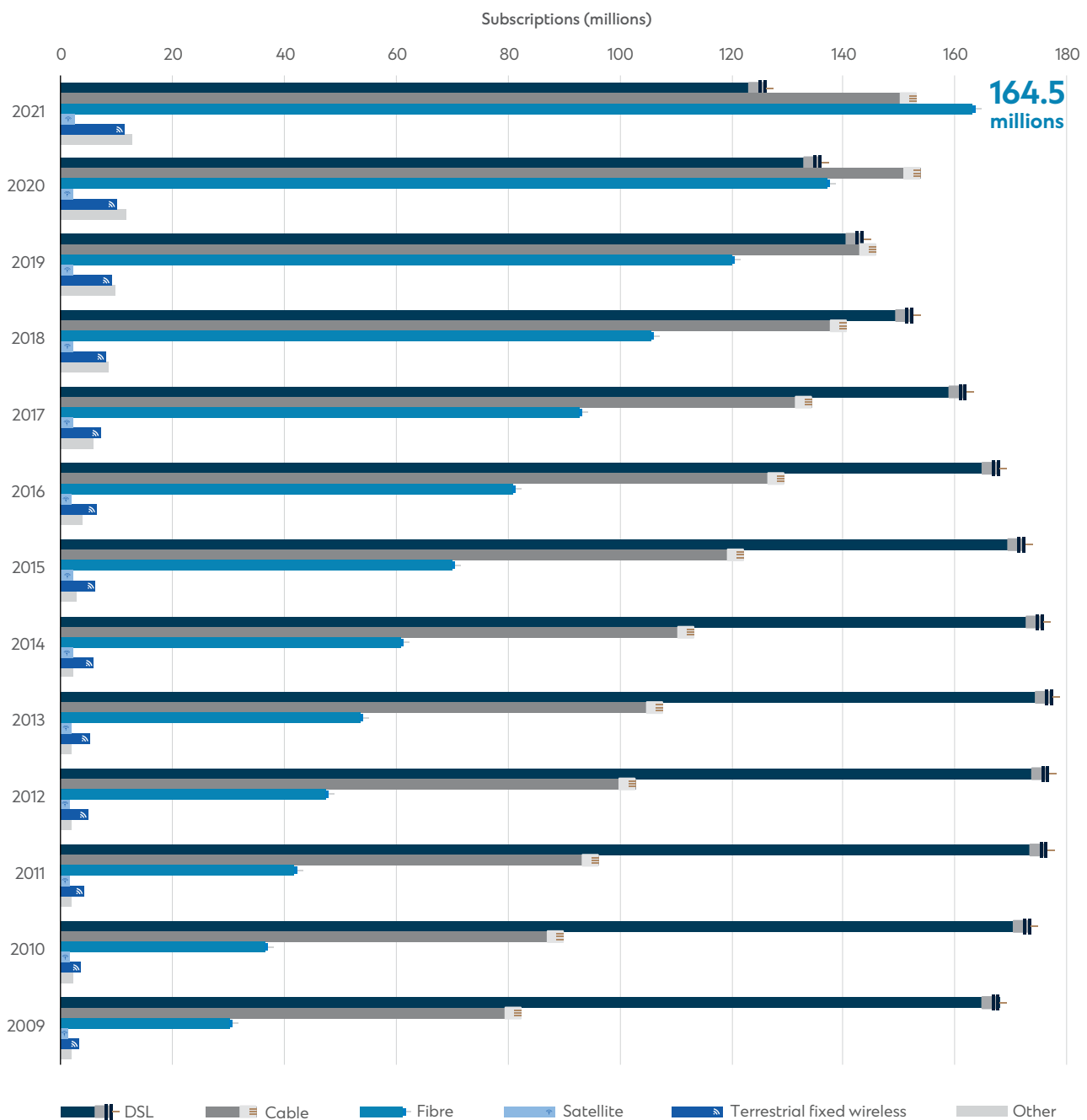
Fixed broadband subscriptions continue to grow across all countries. They grew by 3.9% to 472 million in 2021 according to the Organisation for Economic Co-operation and Development (OECD). The top 20 countries by GDP per capita recorded 8.9% higher broadband penetration rate than the bottom 19 countries. While broadband subscriptions continued to grow at an aggregate level, there is a significant gap in network access coverage, particularly in the emerging economies. This leaves scope for emerging economies, particularly those in Latin America and Europe, to improve their broadband coverage, which is vital for the delivery of data-intensive services and applications.

People are also getting increased connectivity on the go; mobile data usage per subscription rose by 15% in 2021, a cumulative rise of 79% over three years to end-2021. 5G connectivity is also becoming mainstream, as evidenced by Ericsson's estimate of one billion 5G smartphone subscriptions worldwide by the end of 2022. Meanwhile, work on higher capacity and low latency in the 6G cellular technology has also just begun.

With more advanced connectivity, comes an abundance of possibilities for dependent products and services. Internet of Things (IoT) is likely to remain one of the key focus areas for businesses, in which large scale industrial automation has become an emerging trend. However, to fully amplify the transformational impact of IoT, it needs to be combined with key technologies such as cloud computing, data analytics, machine learning and cyber security, amongst many others.

Fibre overtook cable as the primary fixed broadband technology across OECD countries

Progression in fixed broadband subscriptions by technology



Source: OECD, Standard Chartered
Note: DSL stands for digital subscription line

Data is the new oil

The rapid growth of smart devices, further accelerated by the rollout of 5G networks, augmented/virtual reality and quantum computing, will likely drive an exponential growth in data.

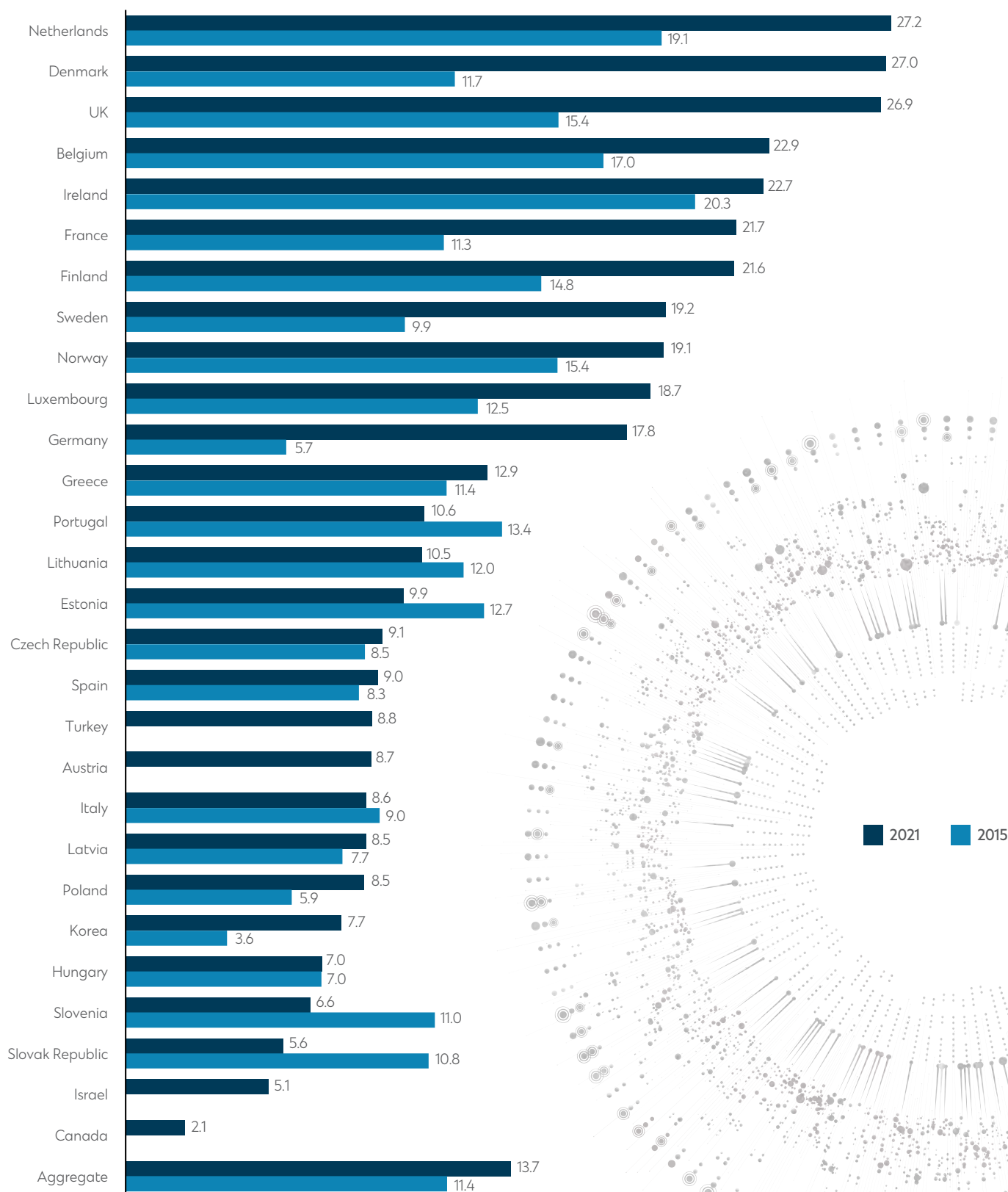
It's projected that by 2025 our global data volume will reach 175 zettabytes. To better visualise this, this translates to a stack of Blu-ray discs that could reach the moon 23 times.

We are creating more data today than ever before. However, that sheer volume of data is in vain unless one is able to understand and extract useful insights and put it to beneficial use. It's not by chance that data has been labelled the "new oil". Machine processing and artificial intelligence can be applied to large data sets to generate new insights and enable better decision-making. Organisations able to convert data into actionable insights will likely have a greater competitive advantage in driving business performance, laying the foundation for long-term success. Despite so, businesses are not actively monetising the data they collect. Since 2015, the percentage of enterprises that have performed big data analysis only rose by 2.2ppt. There is still more room to extract actionable insights from the giant database, and we expect that to accelerate going forward.



There is still room for higher data monetisation

Percentage of business that performed big data analysis (%)



Source: OECD, Standard Chartered

Pushing the productivity limits

Productivity growth has been one of the fundamental components of a growing global economy since the 1990s, especially after the widespread adoption of information technology.

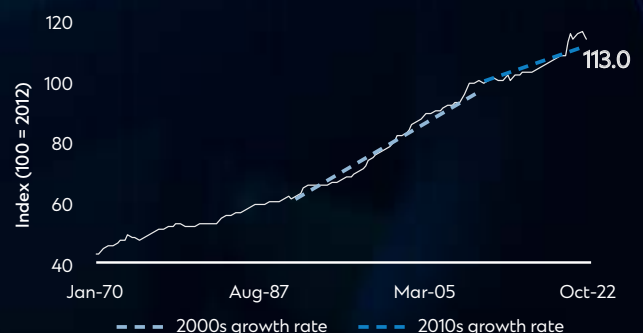
Unfortunately, we are starting to see dismal productivity numbers – the largest two-quarter decline since the 1940s in the US, according to McKinsey Global Institute. In fact, the slowdown in productivity growth in the US economy is a structural trend that pre-dates the pandemic. US GDP per hour worked has been moderating since 2005, lowering its trend GDP growth rate.

When productivity growth stalls, the impact on global growth is beyond just lower output. Lower output implies lower household wage growth and poorer business performance. This, in turn, lowers consumption and investment, leading to even slower productivity growth. A vicious cycle can develop from here on. Hence, reversing the recent productivity slowdown is an urgent priority.

Fortunately, history shows that technology can be an effective spark plug for productivity. The integration of digital automation and other cutting-edge technologies can complement the human workforce and focus them on higher-skilled and higher-order work. For instance, logistics companies can use a combination of software and machinery to automate the flow of inventory in their fulfilment warehouse; this reduces the labour required and also the time spent on inventory management. With a better digital infrastructure and network, we can push the frontiers of productivity to generate more output with the same or even lesser inputs. In this journey to crack the productivity puzzle, digital technologies, such as project management tools, cloud-based collaboration tools and internal communication tools, are expected to be key beneficiaries.

US productivity growth is slowing down

US labour productivity index (output per hour) for all employed persons



Source: Bloomberg, Standard Chartered

New consumer behaviour

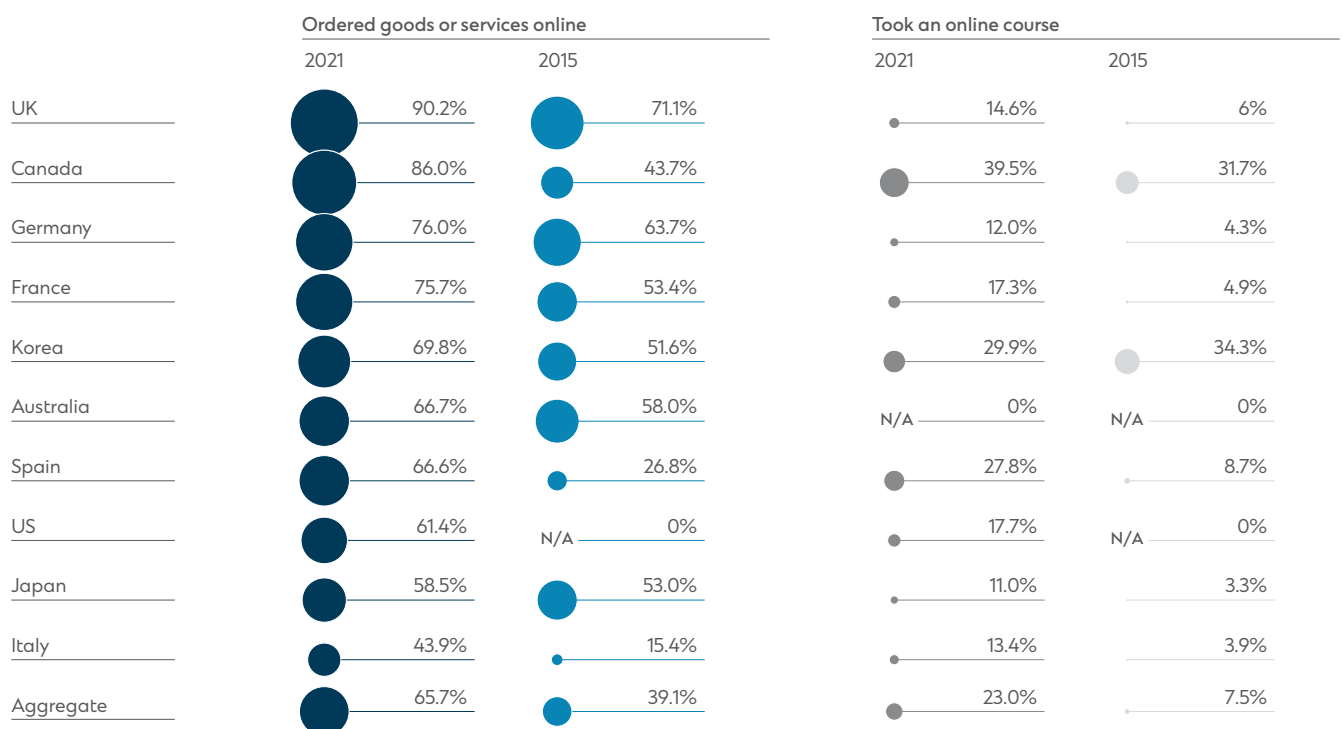
As the post-pandemic world rapidly evolves, consumer behaviour continues to change constantly at a faster rate.

75 percent of US consumers have tried a new store, brand or different way of shopping during the pandemic. This is an example of how the shift towards a more hybrid lifestyle of digital and physical world changes the way consumers interact and engage with businesses. E-commerce is slowly overtaking the traditional bricks-and-mortar retailers. Consumers are looking for greater agility and better experiences when they spend. For example, ecommerce giants are blending entertainment with instant purchasing. More online retailers are integrating their shop into social media platforms such as TikTok, Instagram and Facebook. Consumers can shop while watching an online livestream broadcast.

Almost all industries have been challenged to varying degrees by this rapid change in consumption habits. Companies need to find ways to meet consumers where they are today and satisfy their needs. They can turn to big data analytics and machine learning to understand and adapt to the changing consumer behaviour patterns. The collection of consumer data is an imperative step that will also require the trust of customers. Organisations have to build out a robust cyber security system to enable the consumers to feel confidence in sharing their data. Business leaders who use data intelligence platforms will likely have a competitive edge relative to their competitors in a new world of consumer behaviour.

Global consumers are shifting online for their personal needs

Individuals who ordered goods or services online; individuals who attended an online course



Source: OECD, Standard Chartered

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Potential opportunities and risks

As with any transformation, there will be winners and losers in this journey.

Potential opportunities

We identify a few areas that are ideally positioned to ride on the next wave of digital transformation.



Digital infrastructure

that brings together and interconnects physical and virtual technologies – 5G/Internet of Things, Robotics & Artificial Intelligence, Data Centers, Cybersecurity and Cloud Computing Platforms



Digital solutions

that enable people to live and work more intelligently, more efficiently, and more effectively – Medical Technology, Financial Technology, Blockchain Solutions, Virtual and Augmented Reality



Big data solutions

to harness powerful insights from the ever-growing volumes of data – Data Management, Data Integration and Data Science

Potential risks

Companies or industries in identified areas tend to be characterised by these attributes:



Uncontrolled growth



Loss making & cash burning



Potentially inadequate risk management



Potentially weak governance

This means that there could be higher risks of corporate failures, frauds and scandals. We have already seen a few examples recently, including the fall or struggles of Terra, FTX and Rivian. These challenges have not been restricted to just small-cap names, but also to firms with scale, established branding and reputable backers. Hence, investing in these areas requires extra caution, especially in a post easy money era with higher interest rates and lower market liquidity.

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