



market monitor

Focus on ICT performance and outlook



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On the following pages we indicate the general outlook for each sector featured using these symbols:

 <p>Excellent The credit risk situation in the sector is strong / business performance in the sector is strong compared to its long-term trend</p>	 <p>Poor The credit risk in the sector is relatively high / business performance in the sector is below its long-term trend</p>
 <p>Good The credit risk situation in the sector is benign / business performance in the sector is above its long-term trend</p>	 <p>Bleak The credit risk in the sector is poor / business performance in the sector is weak compared to its long-term trend</p>
 <p>Fair The credit risk situation in the sector is average / business performance in the sector is stable</p>	



Escalation of the Sino-US trade dispute is the biggest risk to industry performance

The global ICT market continues to expand, with sales of information technology and telecommunications products and services expected to increase more than 3% in 2019. Enterprise software and IT services are forecast to exhibit above average growth (8% and 5% respectively). Software as a service (SaaS) is driving growth in almost all software segments, while communications services continue to drive the majority of spending.

Further escalating trade tensions between the US and China pose the biggest risk to the industry outlook. ICT related goods are still largely excluded from the USD 200 billion of Chinese imports subject to the 10% to 25% tariff increase in May 2019 by the US administration. However, any US steps to impose tariffs on essentially all remaining imports from China and retaliatory measures by Beijing would definitely affect ICT industry performance. It is expected that this could dampen business and consumer confidence worldwide and hurt the currently favourable ICT spending environment. At the same time, the impact of the US decision to potentially block domestic and even foreign suppliers from doing business with the Chinese technology firm Huawei could have a major impact on many ICT suppliers in the medium-and long-term, especially in Asia and the US.

China

- The sector is facing major domestic and external challenges
- Payments take between 30 and 60 days on average
- Payment delays are expected to increase in 2019



Overview

Credit risk assessment	significantly improving	improving	stable	deteriorating	significantly deteriorating
Trend in non-payments over the last 6 months				✓	
Development of non-payments over the coming 6 months				✓	
Trend in insolvencies over the last 6 months			✓		
Development of insolvencies over the coming 6 months			✓		
Financing conditions	very high	high	average	low	very low
Dependence on bank finance			✓		
Overall indebtedness of the sector			✓		
Willingness of banks to provide credit to this sector			✓		
Business conditions	significantly improving	improving	stable	deteriorating	significantly deteriorating
Profit margins: general trend over the last 12 months				✓	
General demand situation (sales)			✓		

Source: Atradius

According to Fitch Solutions, the Chinese ICT market grew 8.2% in 2018, reaching a value of CNY 2.86 trillion. Over the coming three years domestic demand should be sustained by the liberalisation of the service sector, modernisation in education and healthcare, smart cities, and the Internet of Things (IoT). Additionally, increasing disposable incomes support discretionary spending on IT-related equipment.

Penetration rates of business hardware, software and IT services are still low in China. The Chinese government has earmarked the ICT sector as crucial for its next economic development stage, and subsequently enacted policies to support the development of cloud computing and advanced manufacturing.

That said, the Chinese ICT sector is increasingly facing domestic and external challenges. Domestically, slower fixed asset investments, overcapacity in labour intensive manufacturing sectors

and highly leveraged businesses are issues that could potentially dampen the ICT growth outlook.

For ICT manufacturers, competition is getting fiercer. Oversupply in some subsectors like panels, printed circuit boards and lithium batteries has caused worries about price wars. At the same time, surging labour costs weaken China's cost advantage, especially against competitors in Southeast Asia. According to the World Bank, China's labour costs are twice as high as in Indonesia, the Philippines, Thailand, and Vietnam.

ICT distributors and retailers also face more challenges and risks. Most smaller players in this segment are ICT distributors with only one or two brands, and as the ICT market is a fast changing one, such companies are exposed to elevated risks due to their highly concentrated product portfolios.

**China: ICT**

	2018	2019f	2020f
GDP growth (%)	6.6	6.2	5.9
Sector value added growth (%)	11.4	6.9	6.5

Average sector growth over the past 3 years (%)	12.2
Average sector growth over the past 5 years (%)	8.1
Degree of export orientation	medium
Degree of competition	high

Sources: Macrobond, Oxford Economics, Atradius

The ongoing trade dispute with the US puts pressure on the ICT market's growth rate. Potential US import tariffs of 25% on all Chinese telecom products and smartphone components, including displays and circuit boards, could slowdown revenue growth for telecom equipment makers. The Chinese ICT hardware market is characterised by a high reliance on imports (about 87.5% of China's IT imports are electronic components, due to be assembled in the mainland and re-exported). Due to higher tariffs, global IT companies could start shifting their production plants in China to other countries, which would have a negative impact on China's ICT supply chain. A Renminbi depreciation would increase the overall cost for China's ICT industry as it heavily relies on imported technologies. At the same time, lower economic growth and lower consumer and business confidence triggered by the ongoing trade dispute would directly impact ICT sales.

Chinese ICT sector

Strengths

The 13th Five Year Plan (2016-2020) will bolster domestic semiconductor manufacturing capacity

Huge domestic market that is expanding as the country develops further

Scale effects and efficient supply chain as the global centre for original equipment manufacturers



Weaknesses

Erosion of China's cost advantages in some areas, with significant production volumes relocating elsewhere

Heavy reliance on imports of high technical components

High levels of piracy, cyber security issues, fierce competition and regulatory uncertainty

Source: Atradius

The US decision to potentially block domestic and even foreign suppliers from doing business with the Chinese technology firm Huawei could have a major impact on the company itself and its domestic suppliers. Huawei is said to have stockpiled enough core hardware components in order to operate for 3-6 months or even up to a year. However, it seems to be more difficult for Huawei to replace software supplies. In any case, the company has to find a solution for high-quality hardware and software supplies in the medium- and long-term.

On average, payments in the ICT industry take between 30 and 60 days. Due to the difficult market conditions, payment delays are expected to increase in 2019. A major increase in insolvencies is not expected for the time being, but cannot be ruled out should the trade dispute with the US and the Huawei issue further escalate.

A market downturn would increase the risk of moral hazard, as some players may bet on one-off deals to make money and disappear from the sector afterwards. Transparency issues remain one of the main challenges in the Chinese ICT sector, as ownership of businesses and group structure are not always evident and there are often different sets of financials. Cross guarantees are widely used in bank lending to ICT traders, meaning that one company's liquidity collapse could drag down others.

Our underwriting stance is neutral to cautious, given the major challenges mentioned above. We currently assess the impact of the trade dispute and the Huawei issue on the whole Chinese ICT supply and value chain.

ICT producers are facing fierce competition, and their performance could be severely impacted by the Sino-US trade dispute. In this segment we assess business profitability and the import/export share for our risk assessment. For service providers sales are usually on a project basis, which are easily delayed.

Generally, we are more restrictive with smaller ICT distributors, system integrators, and online retailers, as in those segments competition is fierce and the financial situation of businesses is often weak.

Performance forecast along subsectors

IT production & service



Telecom. production & service



ICT wholesale & retail



Source: Atradius

France

- Smaller businesses have to adapt business models to survive
- IT hardware market remains under pressure
- Payments take 45 days on average



Overview

Credit risk assessment	significantly improving	improving	stable	deteriorating	significantly deteriorating
Trend in non-payments over the last 6 months			✓		
Development of non-payments over the coming 6 months			✓		
Trend in insolvencies over the last 6 months			✓		
Development of insolvencies over the coming 6 months			✓		
Financing conditions	very high	high	average	low	very low
Dependence on bank finance		✓			
Overall indebtedness of the sector			✓		
Willingness of banks to provide credit to this sector			✓		
Business conditions	significantly improving	improving	stable	deteriorating	significantly deteriorating
Profit margins: general trend over the last 12 months			✓		
General demand situation (sales)			✓		

Source: Atradius

As the focus of the French ICT market has increasingly turned towards services over the last couple of years, the IT software and services segment remains the growth driver of the industry. According to the industry federation Syntec/IDC, IT software and services sales grew 4.1% in 2018, to EUR 56.3 billion. This growth was primarily driven by digital transformation projects, with SMACS (Social, Mobility, Analytics, Cloud and Security) increasing 15.4%. The IT software and services industry is expected to grow again about 4% in 2019, despite a more subdued economic outlook for France this year.

In contrast, the French IT hardware market remained under pressure in 2018, decreasing 11.8% in volume (mainly PCs), according to the research company Gartner. Private household related IT hardware sales declined 13%, as heightened economic uncertainty has led to a postponement of renewal purchases. Tablet and PC sales are severely impacted by competition from other devices such as smartphones, a high equipment rate and pressure on

prices. Cloud computing, digitalization and virtualization development reduce demand for IT hardware products from corporates.

According to the research institute GfK, sales volume in the French mobile phone market decreased 6% in 2018 (in line with the global trend), but sales revenues rose 3.7%, to EUR 8.6 billion, due to higher average prices (trend towards premium products).

Due to shifting market conditions, away from hardware towards services and new technologies, many ICT companies need to change their business model. Wholesalers try to move away from pure hardware selling, to offer more added value products and IT services to improve profitability, as this provides higher revenues and better margins. However, such efforts are not that easy to make and many companies have not met their targets, as the shift towards a new business model is often complicated and takes longer than expected. Moreover, this shift requires highly

France: ICT

	2018	2019f	2020f
GDP growth (%)	1.6	1.4	1.5
Sector value added growth (%)	5.1	4.0	2.9
Average sector growth over the past 3 years (%)			4.8
Average sector growth over the past 5 years (%)			4.4
Degree of export orientation			low
Degree of competition			high

Sources: Macrobond, Oxford Economics, Atradius

skilled management and staff, but several IT companies are currently having difficulty hiring or to keeping skilled staff due to a shortage of experts in the market.

On average, payments in the French ICT sector take around 45 days, and for the time being we expect payment delays and insolvencies to remain rather low, with no major changes in H2 of 2019.

French ICT sector



Strengths

Big data and mobility needs generate new demand

High value added services support sound EBITDA levels



Weaknesses

Businesses often rely on a concentrated portfolio of suppliers and customers

Market is composed of a large number of small and fragile companies

Lack of IT experts

Source: Atradius

However, the situation could quickly worsen, due to the fast changing and very competitive market environment, in which many businesses are having difficulty adjusting their business models. Smaller IT businesses with inflexible cost structures and concentrated customer or supplier portfolios could quickly experience a downturn in revenues. Fierce price pressure and spot deals affect many IT hardware wholesalers and retailers, which suffer from structurally tight margins and low equity levels.

Given the volatile market conditions under which sudden business failures cannot be ruled out, our underwriting position in the ICT sector remains generally neutral, with more caution especially for smaller businesses and the wholesale/retail segment.

Performance forecast along subsectors

IT production & service



Telecom. production & service



ICT wholesale & retail



Source: Atradius

Germany

- Rising insolvencies and fraud issues impact the sector
- Fierce competition and price pressure
- On average, payments take between 30 and 60 days



Overview

Credit risk assessment	significantly improving	improving	stable	deteriorating	significantly deteriorating
Trend in non-payments over the last 6 months				✓	
Development of non-payments over the coming 6 months				✓	
Trend in insolvencies over the last 6 months				✓	
Development of insolvencies over the coming 6 months				✓	
Financing conditions	very high	high	average	low	very low
Dependence on bank finance				✓	
Overall indebtedness of the sector			✓		
Willingness of banks to provide credit to this sector			✓		
Business conditions	significantly improving	improving	stable	deteriorating	significantly deteriorating
Profit margins: general trend over the last 12 months			✓		
General demand situation (sales)			✓		

Source: Atradius

ICT plays a pivotal role in the German economy, outperforming traditional industrial sectors (such as mechanical engineering or chemicals) in terms of innovation and mid-term growth rates. While the German ICT market is dominated by a few big groups, it is characterised by a high number of small- and mid-sized businesses. The sector employs more than one million people, and has generated about 150,000 new jobs over the past five years. 40,000 new jobs are expected to be added in 2019 (up 3.5% compared to 2018), and ICT will remain an engine of employment growth in the long term.

According to the German Federal Association for Information Technology, Telecommunications and New Media (BITKOM), ICT sales increased 2.0% in 2018, to EUR 160.0 billion. This trend is expected to continue in 2019, with a 1.5% growth rate forecast.

Turnover in the telecommunications segments is back on an upward trend (up 1.6% in 2018 and forecast to grow 1.1% in 2019), while IT sales (IT hardware, software and services) are forecast to increase 2.5% this year. Within this segment, software sales (up 6.3%) are expected to be the main driver of growth - as in previous years. That said the negative trend in consumer electronic sales will continue (5% decline forecast for 2019).

Despite further sales growth, most ICT businesses continue to operate on very tight margins due to fierce competition in all sub-sectors, while equity strength is below average. High competition and sharp price erosion have led to an ongoing trend of consolidation. Unless they are well-established in niche products, small ICT companies with annual sales below EUR 50 million are – and will continue to be – the losers in this cut-throat environment.

Germany: ICT

	2018	2019f	2020f
GDP growth (%)	1.5	1.1	1.6
Sector value added growth (%)	3.5	3.1	3.2

Average sector growth over the past 3 years (%)	3.5
Average sector growth over the past 5 years (%)	3.5
Degree of export orientation	average
Degree of competition	very high

Sources: Macrobond, Oxford Economics, Atradius

On average, payments in the ICT industry take between 30 and 60 days, in some cases up to 90 days. Due to the more difficult market conditions (fierce competition and price wars), payment delays, insolvencies and credit insurance claims increased in 2018 (according to the latest data available, ICT business failures increased 3.6% year-on-year in H1 of 2018). We expect this negative trend to continue, with a further rise in payment delays and business failures in 2019, especially among smaller ICT companies and in the ICT wholesale/retail segment.

German ICT sector



Strengths

Innovation-driven sector with high investments in products or process innovations

Additional services (complete packages) often lead to positive purchase decisions and customer retention

ICT sector with the highest start-up rate compared to other industries



Weaknesses

High innovation pressure/high investments have to be financed

The increasing interchangeability of products makes it difficult for companies to distinguish themselves from competitors

High competition and high pressure on prices lead to low margins

Source: Atradius

Another issue is that, due to fast changing technology in this industry and low margins, the wholesale and retail of electronic appliances segment is especially susceptible to fraud. We are still particularly cautious about this, as even innocent businesses caught up in a so-called "VAT carousel" can be left bearing significant tax liabilities. This can lead to liquidity issues, "freezing" of accounts by tax authorities and losing sales to customers that are cautious about buying from prosecuted suppliers.

In general, our underwriting approach for the ICT industry is neutral for IT and telecommunications producers and service providers, but more restrictive for ICT wholesalers and retailers, due to the issues mentioned above and the fact that credit insurance claims have increased over recent months. As ICT is a very fast and innovative industry with sharp price erosion and high competition, we require comprehensive information (e.g. interim figures, cash budgets, overview of bank lines, etc.) on each company we underwrite.

Performance forecast along subsectors

IT production & service



Telecom. production & service



ICT wholesale & retail



Source: Atradius

Japan

- Sales growth to accelerate ahead of the 2020 Summer Olympics
- On average, payments take between 90 and 120 days
- Low number of insolvencies



Overview					
Credit risk assessment	significantly improving	improving	stable	deteriorating	significantly deteriorating
Trend in non-payments over the last 6 months			✓		
Development of non-payments over the coming 6 months			✓		
Trend in insolvencies over the last 6 months			✓		
Development of insolvencies over the coming 6 months			✓		
Financing conditions	very high	high	average	low	very low
Dependence on bank finance		✓			
Overall indebtedness of the sector		✓			
Willingness of banks to provide credit to this sector		✓			
Business conditions	significantly improving	improving	stable	deteriorating	significantly deteriorating
Profit margins: general trend over the last 12 months			✓		
General demand situation (sales)			✓		

Source: Atradius

The Japanese ICT industry is well established and holds a global reputation for excellence and innovation. Globally Japan was the third largest ICT market in terms of spending in 2018 (USD 220 billion), behind the US (USD 1.3 trillion) and China (USD 499 billion). In 2019 total spending is expected to increase 4%, to JPY 26.1 trillion (USD 229.1 billion). In terms of revenues three Japanese companies (Hitachi, Sony, Panasonic) rank among the world's top 15 ICT enterprises.

The market will continue to remain robust, reflecting the affluence of local customers and sophistication of the enterprise base. However, growth is dented somewhat by increased saturation in the domestic market, especially for PCs and traditional software and services solutions.

IT spending growth is forecast to increase steadily in 2019-2022. IT services sales are expected to amount to JPY 19.25 trillion (EUR 150.2 billion) in 2019 and to increase to JPY 22.13 trillion (EUR

172.6 billion) in 2021, a compound annual growth rate (CAGR) of 4.8%. The 2020 Olympic Games in Tokyo are fueling higher spending in 2019 and 2020, as well as increased ICT investment by Japanese businesses, as businesses prepare for the influx of visitors and global media operations are set up for the event.

Computer hardware sales are expected to amount to JPY 2.62 trillion (EUR 20.4 billion) in 2019 and to increase slightly to JPY 2.7 trillion (EUR 21 billion) in 2022, resulting in a CAGR of 1.2%. While PC vendors will benefit from rising unit prices and should see a boost in 2020 when Windows 7 support expires, there will be a drag from declining printer demand and the cannibalization of in-house infrastructure demand, as firms adopt cloud solutions.

Software sales are expected to amount to JPY 4.26 trillion (EUR 33.2 billion) in 2019 and to increase to JPY 5.18 trillion (EUR 40.4 billion) in 2022, a CAGR of 6.7%. Yen appreciation will in-

Japan: ICT

	2018	2019f	2020f
GDP growth (%)	0.8	0.5	0.4
Sector value added growth (%)	1.1	1.9	0.7
Average sector growth over the past 3 years (%)			0.5
Average sector growth over the past 5 years (%)			0.4
Degree of export orientation			very high
Degree of competition			very high

Sources: Macrobond, Oxford Economics, Atradius

crease the affordability of improved software solutions, while businesses increasingly invest in solutions such as cyber security and data analytics.

The recent escalation of the Sino-US trade dispute, and especially the US restrictions on suppliers to the Chinese technology company Huawei will surely affect certain Japanese ICT businesses. For the time being, the impact on sales and profitability seems to be limited, while the mid- and long-term consequences are currently hard to predict. Any economic slowdown in China triggered by the trade dispute would surely lead to lower demand for Japanese ICT exports to China and to other parts of Asia.

Japanese ICT companies obtain financing easily as banks are very willing to lend and interest rates are low. The current government is very supportive of bank lending, putting pressure on banks to even lend to weaker companies. Therefore, high gearing ratios are common in Japan.

Japanese ICT sector



Strengths

High innovation level throughout the industry

Financial resilience of most ICT businesses



Weaknesses

High dependence on export and susceptibility to exchange rate volatility

Fierce competition, especially in the ICT retail segment

Source: Atradius

On average, payments in the ICT industry take between 90 and 120 days. The business culture in Japan promotes prompt payment, and therefore the number of protracted payments is low. The insolvency level in the ICT sector is low and is expected to remain stable in 2019.

The financial profile of ICT producers and service providers is generally good, with the majority of companies generating high revenues and profits, coupled with strong balance sheets. While the ICT wholesalers and retailers segment is operating in a highly competitive environment with generally low profit margins, credit insurance claims have remained low so far.

Our underwriting stance for this industry remains open for the time being, due to stable growth, the low insolvency level, good payment experience and market domination by large corporates and well-established domestic businesses. We continue to closely monitor any impacts of the ongoing Sino-US trade dispute and the Huawei issue.

Performance forecast along subsectors

IT production & service



Telecom. production & service



ICT wholesale & retail



Source: Atradius

United Kingdom

- Increased challenges for ICT resellers
- On average, payments take around 60 days
- ICT still bucking the overall insolvency trend



Overview					
Credit risk assessment	significantly improving	improving	stable	deteriorating	significantly deteriorating
Trend in non-payments over the last 6 months			✓		
Development of non-payments over the coming 6 months			✓		
Trend in insolvencies over the last 6 months			✓		
Development of insolvencies over the coming 6 months			✓		
Financing conditions	very high	high	average	low	very low
Dependence on bank finance			✓		
Overall indebtedness of the sector				✓	
Willingness of banks to provide credit to this sector		✓			
Business conditions	significantly improving	improving	stable	deteriorating	significantly deteriorating
Profit margins: general trend over the last 12 months			✓		
General demand situation (sales)				✓	

Source: Atradius

According to the analyst company Nelson Hall, spending of British businesses for IT and business process outsourcing (BPO) decreased 60% in 2018, to GBP 2.9 billion (down from GBP 5.1 billion in 2017). This decline was mainly due to increased insecurity over Brexit, which led companies to delay in-house investments, with budgets revised, plans postponed and non-essential upgrades delayed.

That said, the sharp decline was partly offset by a public sector investment surge of 68% in IT and BPO, up to GBP 2.9 billion. Central government departments accounted for 95% of the spending, with data centres, cloud infrastructure and application management being key areas of expenditure.

While ICT sales growth is expected to slow down this year, the business sentiment and outlook for 2019 in the industry is far more upbeat than in the rest of the economy. Despite the looming Brexit uncertainty, the UK technology sector again attracted

more venture capital investment and stock market flotations in 2018 than any other European country. The high level of incoming investment is driven by a surge in funding for tech sectors such as financial technology, artificial intelligence, blockchain and cryptocurrency.

Software and data services remain the main drivers of ICT growth, together with cloud computing and the Internet of Things. Data centres, a continued development of mobile apps and new technologies like wearable devices are the areas anticipated to drive the sector forward in the coming years.

In 2018, ICT wholesalers and retailers continued to focus on increasing their software and services revenue streams as margins for hardware sales have diminished. Consumers are increasingly using smartphones as their only computing device, while technological improvements are not sufficient to generate real growth in the hardware segment. Pressure on margins persist

United Kingdom: ICT

	2018	2019f	2020f
GDP growth (%)	1.4	1.4	1.8
Sector value added growth (%)	4.7	2.7	3.7
Average sector growth over the past 3 years (%)			5.7
Average sector growth over the past 5 years (%)			4.8
Degree of export orientation			low
Degree of competition			high

Sources: Macrobond, Oxford Economics, Atradius

across the IT industry as buyers are increasingly price-sensitive. This is a challenge for resellers that have not yet protected their customer base by moving to a more service-based model with more added value for clients.

Since 2017 there has been additional pressure on the margins of ICT businesses due to the pound sterling depreciation, which has reduced the purchasing power of many ICT companies that are importing/purchasing in EUR/USD and selling in GBP. While profitability of ICT businesses remains generally low, profit margins are not expected to deteriorate in 2019.

British ICT sector



Strengths

Technology developments in high demand from most industry sectors

Investment in data centres/cloud computing continues to gather pace

IT service providers achieve higher margins



Weaknesses

Increased economic uncertainty due to Brexit decision

High level of competition and low margins

Hardware sales continue to decline

Source: Atradius

On average, payments in the British ICT sector remain unchanged at around 60 days. Payment experience over the past two years has remained good so far and the level of protracted payments is low. The number of non-payment cases has not increased over the last 12 months and this positive trend is expected to continue. The level of ICT insolvencies is average and no substantial increase is foreseen in 2019. ICT is bucking the overall insolvency trend as UK business failures are expected to increase 7% in 2019 after a 10% rise in 2019.

For the time being, our underwriting stance for the British ICT sector remains open to neutral. However, competition remains fierce and margins are expected to remain under pressure, with minimal barriers to entry.

Given the current economic conditions, we focus our discussions with buyers on foreign exchange hedging mechanisms/techniques adopted to ensure they are sufficiently covered, as many companies have not faced this risk over the past couple of years. In the wake of a no-deal Brexit, there could be price fluctuations on IT goods and immediate price increases from vendors. Adopting appropriate hedging mechanisms is vital for businesses to limit their risk exposure.

We continue to closely monitor ICT suppliers to the financial services sector, which is a major market for ICT sales in the UK. The potential relocation of financial institutions to mainland Europe in the wake of Brexit could have a knock-on effect on ICT suppliers. While the British government has sought to reassure major finance firms that the industry would be protected in a Brexit trade deal, the real outcome remains to be seen.

Performance forecast along subsectors

IT production & service



Telecom. production & service



ICT wholesale & retail



Source: Atradius

United States

- Full impact of Sino-US trade dispute still remains to be seen
- Insolvencies not expected to decrease in 2018
- Payments commonly range between 30 and 90 days



Overview					
Credit risk assessment	significantly improving	improving	stable	deteriorating	significantly deteriorating
Trend in non-payments over the last 6 months		✓			
Development of non-payments over the coming 6 months			✓		
Trend in insolvencies over the last 6 months			✓		
Development of insolvencies over the coming 6 months			✓		
Financing conditions	very high	high	average	low	very low
Dependence on bank finance		✓			
Overall indebtedness of the sector		✓			
Willingness of banks to provide credit to this sector		✓			
Business conditions	significantly improving	improving	stable	deteriorating	significantly deteriorating
Profit margins: general trend over the last 12 months			✓		
General demand situation (sales)			✓		

Source: Atradius

In 2018, the US ICT market benefitted from robust economic growth and a further increase in private consumption, aided once again by wage growth and employment gains. This positive trend should continue in the coming months.

According to the Consumer Technology Association (CTA), retail revenues in the US consumer technology industry grew 6% year-on-year in 2018, reaching a record-breaking USD 377 billion. Another 5.5% increase is expected in 2019.

2019 growth in the smartphone segment should slow somewhat, with revenues forecast to increase 2% and unit volumes up 1%. That said, the planned introduction of 5G smartphones will drive demand moving forward. Smart speakers, smart home, smartwatches and drones are expected to see revenue growth of 7%, 17%, 19% and 4% respectively. With a 25% year-on-year increase, streaming services recorded the highest annual growth rate in 2018. The US remains the world's largest market for me-

dia content, access and technology, but with increased concentration on subscription services and less on the single-unit purchases that drove consumer spending for decades.

Despite the healthy growth rates in many ICT segments, stiff competition is still leading to low pricing strategies and margin compression for distributors and retailers alike. Any margin gains are likely to come from new product lines or a greater portion of sales being derived from services, which tend to carry higher margins. Margins of ICT manufacturers are impacted by the already high market penetration of mature product categories and the subsequent need for innovation, which leads to higher R&D costs.

Payment behavior in the US ICT sector has improved slightly over the past 12 months. Payments in the industry commonly range between 30 and 90 days, but in some cases can take 120 days. When payment delays occur, they generally relate to disputes

**United States: ICT**

	2018	2019f	2020f
GDP growth (%)	2.9	2.3	1.8
Sector value added growth (%)	8.6	6.8	4.7
Average sector growth over the past 3 years (%)	8.7		
Average sector growth over the past 5 years (%)	7.9		
Degree of export orientation	average		
Degree of competition	high		

Sources: Macrobond, Oxford Economics, Atradius

over product pricing or other issues, as opposed to liquidity concerns. Manufacturers often offer price protection or discounts on products in order to move inventory ahead of the rapid innovation of technology experienced in the market. This can lead to disputes and ultimately an increase in non-payments until the issues can be resolved.

There was no major ICT insolvency in 2018, and business failures are expected to level off in 2019. A substantial decrease cannot be expected, given the ongoing high level of competition, the abundance of start-ups and the ever short product cycles. Currently the full impact of the ongoing escalation in the US-China trade dispute still remains to be seen. ICT related goods are

still largely excluded from the Chinese imports worth USD 200 billion on which the US administration recently raised tariffs from 10% to 25%. For most of the affected US businesses the short-term impact of restrictions on doing business with Huawei seem to be limited (Washington added Huawei to a list of companies that US firms cannot trade with unless they have a government licence). It is expected that the main US suppliers of semiconductors, chips, and processors to Huawei are able to divert sales for the time being, thereby offsetting sales decreases to Huawei in the short-term at least.

That said, any steps to impose tariffs on essentially all remaining imports from China (valued at approximately USD 300 billion), and retaliatory measures by China would definitely affect ICT. Out of concerns over such a move many ICT companies have already started to stockpile inventory or to import required goods from other Asian markets.

A full-scale trade war between the US and China would definitely lead to higher prices for a range of consumer electronics and ICT components. It is expected that US ICT retailers could absorb some of the costs to a certain degree and partly pass on price increases to consumers, but this would have certain limits due to the very competitive market situation. Therefore, decreasing margins for retailers cannot be ruled out in such a scenario.

Some ICT companies are able to shift production from China to other countries, cutting the final bill for US consumers. Companies with complex supply chains, mainly those in high tech industries, are able to change the way their internal costs are charged to subsidiaries to lower their tariff bill. However, ICT supply chains would be hurt if there is a full-scale trade war, as ICT products assembled in China and exported to the US heavily depend on the input of US-made components (semiconductors, software and other items). Therefore, there is also a potential negative impact mainly on the component supply side.

Despite the uncertainty surrounding tariffs, our underlying underwriting strategy remains cautiously open for the time being, with a focus on favourable subsectors such as smartphones, health technology products, streaming or subscription services and other emerging technologies, mainly smart or connected devices, while being more cautious with declining subsectors like PCs and semiconductors.

US ICT sector

Strengths

Increased demand for streaming and subscription based services, which carry higher margins.

Wide consumer acceptance of new devices, particularly in terms of mobility and connectivity

Trend toward cloud-based applications and computing benefits software companies

Increasing focus on cybersecurity



Weaknesses

Demand for desktop PCs remains weak

Fierce competition leading to pricing pressure and low margins

Short product life cycles and capital intensive industry

Heavy dependence on bank or vendor financing

Source: Atradius

Performance forecast along subsectors

IT production & service



Telecom. production & service



ICT wholesale & retail



Source: Atradius

Market performance at a glance

Australia

- The Australian ICT market is forecast to grow further in 2019 and 2020 (value added up by more than 4% annually). Both state and federal governments remain key investors in IT projects, while ICT spending of businesses and consumers is driven by economic growth and technological progress.
- In general, ICT is a profitable segment with steady margins. However, in 2018 margins have deteriorated for businesses in the ICT wholesale and retail segment, where the market is very competitive and cost pressure is high.
- Many ICT businesses are highly leveraged, either via debtor financing for working capital management or through term loans. Banks are quite open and willing to offer loans to the industry. It is important for ICT businesses to have healthy cash flow as a lot of companies earn extra margin through early settlement of invoices, and therefore having working capital funding in place is quite important.
- Payments in the ICT sector generally take between 30 and 60 days from invoice date or between 30 and 45 days end of month (EOM). Payment experience over the past two years has been good and the level of protracted payments and insolvencies remains low compared to other industries. No major change is expected in 2019.
- Our underwriting stance remains generally open for IT producers and service, as this segment generally performs well with profitable businesses and a good non-payment notification and claims record. The same accounts for telecommunications, which is a highly regulated segment with many financially strong businesses.
- However our underwriting stance on ICT wholesalers and retailers has become more restrictive, especially for small businesses, which suffer most from the highly competitive environment. Smaller ICT retailers often face liquidity issues, and credit insurance claims in this segment have increased over the past 12 months.



Australia: ICT

	2018	2019f	2020f
GDP growth (%)	2.8	2.2	2.6
Sector value added growth (%)	2.0	4.3	5.0
Average sector growth over the past 3 years (%)	3.3		
Average sector growth over the past 5 years (%)	4.8		
Degree of export orientation	very low		
Degree of competition	high		

Sources: Macrobond, Oxford Economics, Atradius

Performance forecast along subsectors

IT production & service	Telecom. production & service	ICT wholesale & retail

Source: Atradius

India

- IT and IT Enabled Services (ITES) are key driving forces fueling economic growth. They contributed 7.9% to India's GDP in 2018. The main segments of the industry are IT services (42% share), Business Process Management (16%), Engineering R&D and packaged software (16%), hardware (7%) and e-commerce (19%).
- The industry grew 9.4% to USD 204.5 billion in the financial year (FY) 2018, and another 9.5% increase is expected in the FY 2019. Key drivers are robust economic growth, growing disposable income, penetration into rural markets, tier 2 and tier 3 cities, the e-commerce boom, and government investments in the industry.
- Despite the healthy growth rates the industry continues to be characterised by stiff competition and cheap imports causing pricing pressures, especially for smaller IT resellers and distributors, who are working on very low margins.
- On average, payments in the Indian ICT sector take 90 to 120 days. The increasing presence of online retailers puts pressure on brick and mortar IT resellers and distributors. In H2 of 2018 several ICT resellers went on strike to protest the predatory pricing of e-commerce businesses. This resulted in slow moving stock and delayed payments. We are also witnessing stretched payments on government projects.
- Our underwriting stance is neutral for IT production and services. This subsector comprises many large corporates with sound financials, and business prospects remain favourable due to more public IT projects. However, many businesses are exposed to extended working capital cycles, coupled with late payments from government bodies. The tightening of US H-1B visa issuances is putting pressure on Indian IT services firms, as an increase in compliance and on-site hiring impact margins.
- For the telecommunication segment our underwriting stance is restrictive. While mobile-phone penetration and internet usage are sharply increasing, competition is fierce (e.g. from Chinese mobile-phone producers) and prices are under pressure, with little or no product differentiation. A consolidation process is ongoing in the market.
- We are neutral on the ICT distribution and retail segment, as this sector comprises many small businesses (mostly proprietorship/partnership companies) and is characterised by fierce competition and price pressure. Many players hold only a moderate financial risk profile with thin margins and limited or no value addition.



India: ICT

	2018	2019f	2020f
GDP growth (%)	7.4	7.1	7.0
Sector value added growth (%)	7.3	9.3	9.5

Average sector growth over the past 3 years (%)	8.1
Average sector growth over the past 5 years (%)	8.5
Degree of export orientation	average
Degree of competition	very high

Sources: Macrobond, Oxford Economics, Atradius

Performance forecast along subsectors

IT production & service	Telecom. production & service	ICT wholesale & retail

Source: Atradius

Italy

- According to the industry association Assinform, IT services sales grew 0.7% year-on-year in 2018, to EUR 30 billion, and in 2019 a 1.6% increase is expected. The e-commerce market grew 24%, to EUR 28 billion, with 16% growth expected in 2019.
- The economic slowdown and lower business investments will have an impact in 2019, as tighter cost controls could lead to lower ICT expenditures made by small- and medium-sized businesses and public bodies. However, ICT investments by large companies are expected to remain stable, and those alone account for 50% of total domestic ICT investments.
- In most ICT segments margins remained stable in 2018, and are expected not to decrease in 2019. Due to rather modest organic growth opportunities and market adjustment in the distribution segment, companies strive to expand through acquisitions and specialisation (customised and value-added services).
- Both financial gearing and dependence on bank loans are high in the Italian ICT sector. While payments in the industry generally take around 110 days, payment experience has been good over the past two years, and the level of notified non-payments is still low. The amount of ICT business failures is rather low compared to other Italian industries, and while Italian business insolvencies are forecast to increase 6% year-on-year in 2019, ICT business failures are expected to level off.
- Our underwriting approach remains generally open for most IT and telecommunication producers and service providers due to the benign credit risk situation, the general need of Italian businesses to increase IT spending in order to boost productivity and increasing demand for innovation (digitalisation, cybersecurity, Big Data, electronic payments, cloud computing).
- However, smaller players have to be monitored more closely, as they are more exposed to financial distress related to working capital requirements, especially when depending on large clients and the public sector.
- For several months we have adopted a more restrictive approach to the ICT wholesalers retail segment, especially on companies with low value added services and a weak position in the value chain. This segment is characterised by stiff competition, significant pressure on margins and liquidity management issues. Non-payment notifications in this sub-sector have increased in early 2019.



Italy: ICT

	2018	2019f	2020f
GDP growth (%)	0.8	-0.1	0.4
Sector value added growth (%)	-3.8	-0.8	1.0
Average sector growth over the past 3 years (%)	0.6		
Average sector growth over the past 5 years (%)	0.8		
Degree of export orientation	low		
Degree of competition	very high		

Sources: Macrobond, Oxford Economics, Atradius

Performance forecast along subsectors



Source: Atradius

The Netherlands

- The Dutch ICT industry accounts for about 4.5% of GDP, with approximately 365,000 employees in the sector. About 95% of ICT businesses have less than 10 employees, and there are only 200 companies with more than 100 employees.
- In line with the robust economic performance, ICT valued added grew 3.6% in 2018 and, despite the forecast of an economic slowdown, is expected to increase about 3% in 2019. Competition in the market remains high, and while ICT distributors are becoming larger, many smaller companies are changing their business models to have a more service-oriented approach.
- Profit margins in the Dutch ICT sector are expected to remain stable over the coming 12 months after a slight deterioration in 2018. The overall indebtedness of the sector is not overly high and banks are generally willing to lend to ICT businesses.
- On average, payments in the ICT industry take between 30 and 60 days and our portfolio payment experience has been good over the past two years. The number of payment delays and insolvencies is low and expected to remain stable in H2 of 2019.
- Due to the solid performance and benign credit risk situation, our underwriting stance for this industry remains generally open. However, given the highly competitive environment and the low margins of many ICT businesses, the requirements for financial information on ICT buyers are very high.



The Netherlands: ICT

	2018	2019f	2020f
GDP growth (%)	2.6	1.6	1.5
Sector value added growth (%)	3.6	3.2	2.8

Average sector growth over the past 3 years (%)	4.4
Average sector growth over the past 5 years (%)	4.2
Degree of export orientation	average
Degree of competition	high

Sources: Macrobond, Oxford Economics, Atradius

Performance forecast along subsectors

IT production & service 	Telecom. production & service 	ICT wholesale & retail
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Source: Atradius

Spain

- While ICT sales have increased steadily over the last couple of years, turnover growth has slowed down in 2017 and 2018 to 1.2% and 1.7% respectively, after a 5.4% increase in 2016. The slower growth rates are due to lower demand from both private and public buyers. Sales are expected to grow about 2% annually over the next five years.
- A significant number of ICT businesses belong to multinational groups, and the amount of foreign investment is stable. However, the Spanish ICT trade balance is structurally negative, as the export level is low.
- Margins of many ICT businesses remain stable but tight, especially in the ICT wholesale and retail subsector. This is mainly due to high competition in terms of sales prices.
- In general, financing requirements are average in the ICT sector, and banks are willing to lend to the industry. However, it is important to differentiate along subsectors, as the liquidity requirements of IT producers are significantly lower than those of wholesalers and retailers, which have higher working capital needs and are highly dependent on short-term lines of bank credit.
- On average, payments in the ICT industry take between 30 and 60 days, and the payment behaviour over the past two years has been good. The level of both payment delays and insolvencies in the ICT sector is low, and expected to remain stable in 2019.
- Our underwriting stance for the industry remains generally open to neutral, with closer monitoring of highly geared small- and medium-sized businesses. When underwriting ICT wholesalers and retailers it is important to take into account available lines of credit and outstanding balances in order to assess the liquidity situation.



Spain: ICT

	2018	2019f	2020f
GDP growth (%)	2.6	2.2	2.0
Sector value added growth (%)	4.9	4.4	3.3
Average sector growth over the past 3 years (%)	4.7		
Average sector growth over the past 5 years (%)	5.5		
Degree of export orientation	low		
Degree of competition	high		

Sources: Macrobond, Oxford Economics, Atradius

Performance forecast along subsectors



Source: Atradius

Taiwan

- The demand situation in Taiwan's ICT industry is expected to remain benign in 2019 with value added growth forecast to increase more than 3.5%. Profit margins of ICT businesses have improved over the past 12 months and are expected to increase further in H2 of 2019.
- Sales are driven by 5G, servers, artificial intelligence and cloud applications. Taiwan strives to become an international pioneer for the commercial use of 5G, which is scheduled to be rolled out in 2020.
- The recent escalation of the Sino-US trade dispute, and especially the US restrictions on suppliers to Huawei will surely affect certain Taiwanese ICT businesses. For the time being, the impact on sales and profitability seems to be limited, while the mid- and long-term consequences are currently hard to predict. Any economic slowdown in mainland China triggered by the trade dispute would surely lead to lower demand for Taiwanese ICT exports to the mainland and other parts of Asia.
- Competition is not overly high in the industry, but more elevated in the wholesalers/channel segment due to price sensitivity. Financing requirements are high but banks are generally willing to lend to the industry.
- On average, payments in the ICT industry take between 30 and 60 days. Payment behaviour over the past two years has been good and the number of protracted payments low. The insolvency level in the ICT sector is average and expected to remain stable in 2019.
- For the time being, our underwriting stance for ICT remains generally open due to stable growth, good payment experience and the fact that the market is dominated by more resilient large corporates. However, we are more cautious with the wholesale and retail segment. It is more exposed to demand and price volatility, and the external indebtedness of businesses is higher than in other subsectors. We continue to closely monitor any impacts of the ongoing Sino-US trade dispute and the Huawei issue.



Taiwan: ICT

	2018	2019f	2020f
GDP growth (%)	2.6	1.5	1.7
Sector value added growth (%)	4.1	3.7	1.9

Average sector growth over the past 3 years (%)	3.4
Average sector growth over the past 5 years (%)	4.1
Degree of export orientation	average
Degree of competition	average

Sources: Macrobond, Oxford Economics, Atradius

Performance forecast along subsectors

IT production & service	Telecom. production & service	ICT wholesale & retail

Source: Atradius

United Arab Emirates



- The ICT value chain in the UAE encompasses vendors, distributors, power retailers, resellers and other small retailers. There is no manufacturing. Most of the vendors and distributors are in Dubai's free trade zones and redistribute to the wider Middle East. Domestic demand is driven by expatriats, tourists, shopping festivals and regular speciality electronic retail events.
- Oil price volatility continues to put downward pressure on the economy and discretionary spending, including in the IT segment. Sales of consumer electronic devices, computer hardware, audio visuals and handsets in the UAE are expected to reach USD 9.9 billion in 2019, a very modest annual increase.
- The UAE's ICT market remains affected by stiff competition, low and declining margins, low entry barriers, reluctance of banks to support, reliance on tourist inflows (which currently show sluggish growth rates compared to the past) and slow economic growth. The imposition of new taxation and customs duties on certain electronic related products in India and persistent political instability in the Middle East has negatively impacted the overall demand for ICT products.
- Payment delays and protracted defaults continue to remain high due to cash flow problems of many ICT businesses, aggravated by the lack of support from banks in the form of reduced or cautious lending. In H2 of 2019 insolvencies are expected to level off at a high level, while payment delays are expected to increase further.
- We continue with our prudent and selective approach on buyers in the ICT sector in UAE, especially for the wholesalers and retail segment, which has severely suffered from lower demand, high competition and deteriorated margins.
- Special attention is also given to distributors and resellers exporting to high political risk countries in the Middle East and Africa. In the telecommunication sector we maintain a prudent approach with smaller players. In any case, the availability of the latest audited financials and updated trading experience are key requirements for business reviews in the ICT sector.

United Arab Emirates: ICT

	2018	2019f	2020f
GDP growth (%)	1.7	2.2	2.2
Sector value added growth (%)	4.8	4.6	4.4
Average sector growth over the past 3 years (%)	5.0		
Average sector growth over the past 5 years (%)	5.3		
Degree of export orientation	high		
Degree of competition	high		

Sources: Macrobond, Oxford Economics, Atradius

Performance forecast along subsectors

IT production & service	Telecom. production & service	ICT wholesale & retail

Source: Atradius

Industries performance forecast per country

June 2019

	Agriculture	Automotive/ Transport	Chemicals/ Pharma	Construction Const.Mtrls	Consumer Durables	Electronics/ ICT	Financial Services
Austria							
Belgium							
Czech Rep.							
Denmark							
France							
Germany							
Hungary							
Ireland							
Italy							
The Netherlands							
Poland							
Portugal							
Russia							
Slovakia							
Spain							
Sweden							
Switzerland							
Turkey							
UK							
Brazil							
Canada							
Mexico							
USA							
Australia							
China							
Hong Kong							
India							
Indonesia							
Japan							
New Zealand							
Singapore							
Taiwan							
Thailand							
United Arab Emirates							

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MARKET PERFORMANCE
AT A GLANCE

OVERVIEW CHART

INDUSTRY PERFORMANCE

Food	Machines/ Engineering	Metals	Paper	Services	Steel	Textiles



Excellent



Good



Fair



Poor



Bleak



Industry performance

Changes since April 2019

Europe

Austria

Construction/Construction materials



Up from Bleak to Poor

The market situation has improved somewhat due to a better order backlog.

Belgium

Paper



Up from Poor to Fair

The credit insurance claims situation has improved over the past couple of months.

Germany

Construction/Construction materials



Up from Fair to Good

The industry has recorded above average growth rates over the last three years, and the 2019 outlook remains positive. Construction insolvencies have decreased over the past 12 months.

Italy

Automotive/Transport



Down from Good to Poor

Growth in the automotive industry has slowed down due to fewer car registrations in H1 of 2019 and lower demand for car components. In both the automotive and transport segment the frequency and value of credit insurance claims has increased.

Food



Down from Good to Fair

Conditions in the food retail market have deteriorated due to flat demand and fierce competition.

Machines/Engineering



Down from Excellent to Good

A more subdued economic growth outlook in Italy and Germany affects the sector, while the frequency of credit insurance claims has increased slightly.

The Netherlands

Construction/Construction materials



Down from Good to Fair

After several years of robust performance construction growth has cooled down and construction insolvencies began to increase, especially among smaller businesses. Business failures are expected to rise further in the coming months.

Switzerland

Textiles



Down from Fair to Poor

The sector has been affected by lower sales, changes in customer behaviour and increased competition from new online retailers.

United Kingdom

Automotive



Down from Fair to Poor

The sector is affected by temporary shutdowns of production plants, decreasing sales and a subdued performance outlook for the coming 12 months.

Metals



Down from Fair to Poor

A large business failure has led to increased insecurity in the market, while stagnating sales prices have caused additional concern.

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