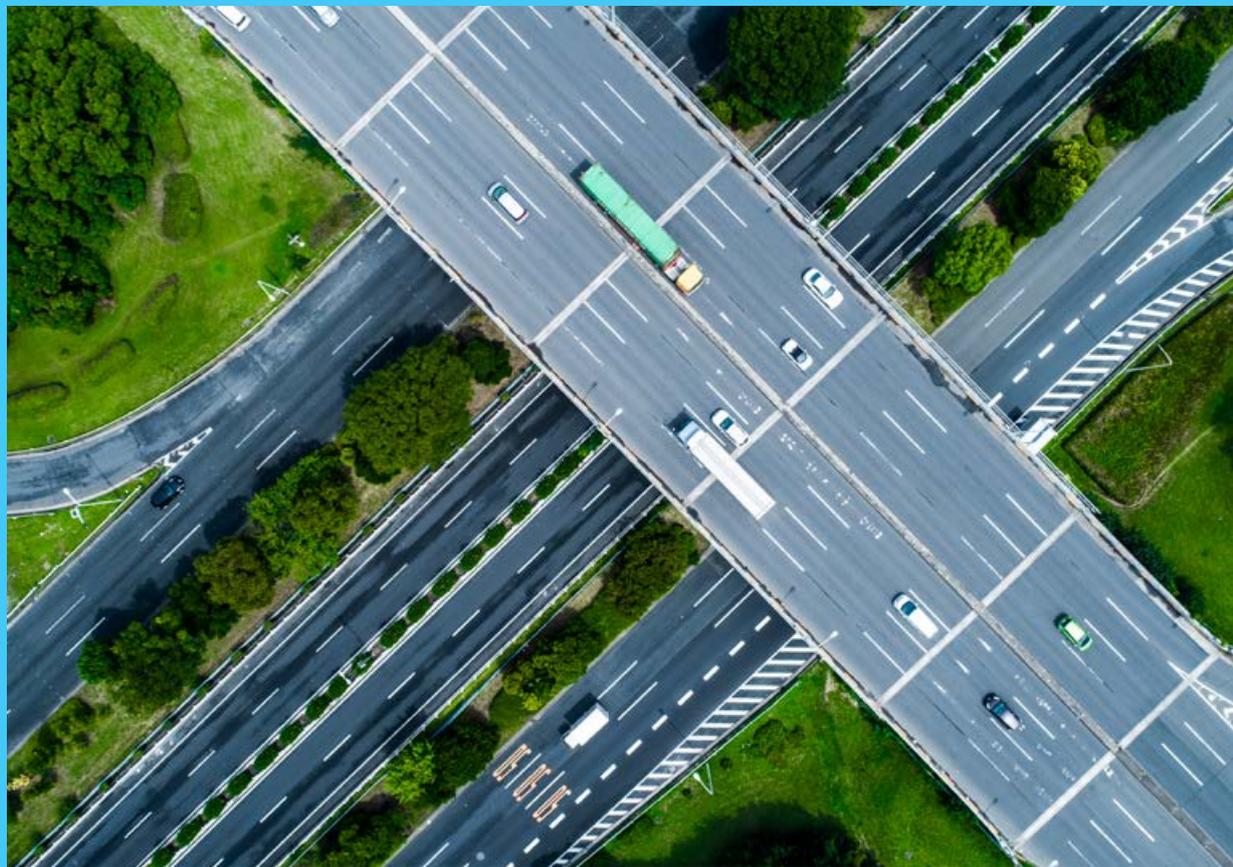


The future of road transport



Foreword



Umberto de Pretto

Secretary General, IRU

IRU has always been synonymous with innovation. Working at the heart of the road transport sector, we have pioneered revolutionary practices that have transformed transport and trade as we know it.

70 years ago, with Europe still reeling from the devastation caused by the Second World War, IRU was established to facilitate and promote trade and transport between nations as they sought to rebuild. By building links between countries and making it as easy as possible to transport people and goods by road, IRU was instrumental in helping to develop and re-establish societies and economies through the TIR system, which later became a UN Convention.

This year, as we celebrate our 70th anniversary, the world is a very different place. Road transport and trade have evolved beyond recognition.

But one thing remains the same. Today, trade is still the driving force behind international prosperity and peace. In a globalised economy, road transport is a vital production tool interconnecting businesses and markets. And efficient, effective supply chains are the cornerstone of international trade.

Around the world demand for road transport is increasing; yet geopolitical uncertainty and instability, coupled with widespread social and economic disruption, is threatening its growth. Burgeoning international trade wars and protectionism pose significant concern to the future of our sector.

Harnessing technology for a safe, successful and sustainable future

In the face of this disruption and uncertainty, there is no doubt that technology and innovation hold the key to unlocking growth, sustainability and success for the global road transport industry. New developments in technology and innovation represent a huge opportunity that we must grasp with both hands.

Yet we still have a job to do to ensure the benefits of technology can be enjoyed by everyone in our sector. While innovative disruptors are charging ahead, transport companies in many parts of the world still lack the resources or infrastructure to benefit from digitisation. We need to ensure we have the right foundations in place to enable players in all corners of the globe to seize the opportunities that technology brings.

The insights from transport companies found in this report provide an important and timely snapshot of our sector. They shine a light on the challenges and opportunities faced by those on the front line, and help us to better understand how we can support the industry at this pivotal moment.

As we open the doors to our World Congress, this research will help to inform and enlighten the debate in Oman. I look forward to us coming together as an industry to drive the transformation of the road transport sector.

Research Methodology

In collaboration with IRU, Random SA developed a quantitative online survey to target transport companies.

The survey was completed by a global sample size of 450 respondents working for a transport operator, transport broker or freight forwarder company in one of the 19 pre-selected countries covering three geographical areas: Europe, the GCC and Asia. The research sample was identified, recruited and surveyed independently from IRU to ensure a broad, robust and representative picture of transport companies.

Quotas were set per country and weighted to reach 150 respondents per region. Additional quotas were set to reach a sample size of minimum 50% CEOs/managers from the logistics department vs. non-managers from the logistics department.

The fieldwork took place from end of August to mid-September 2018 and was conducted under the supervision of Random SA, by Asia Research Partners, one of the leading Asian independent research companies, based in India. Random SA and Asia Research Partners are both members of ESOMAR, the leading global insights association to certify that the highest ethical and professional standards are respected by member research institutes. Random SA ran the analysis (SPSS) in-house based on a statistical significance levels of 95%.

Executive Summary

What is in the report?

This report explores the challenges and opportunities facing the road transport sector worldwide, providing a snapshot of an industry that recognises it is operating and evolving through a period of great change.

The findings come from in-depth interviews conducted with representatives from transport companies, brokers and freight forwarding firms in 19 countries across Europe, Asia and the Gulf Cooperation Council (GCC) region.

As such, it gives us a truly global picture, with insights into how transport companies see the world around them and the issues they feel are threatening their business.

Above all, they recognise the potential of technology-driven innovation to revolutionise the industry from a commercial, operational and environmental point of view, and they are excited for a future in which road transport is easier, more efficient and safer.

But at the same time, they see numerous challenges and obstacles to effectively adopting these new innovations. In light of the findings, IRU makes several key recommendations for the industry and its stakeholders to consider in order to help fulfil its potential in the long term.

The findings

The global outlook for the road transport industry has never been characterised by so much change and so many challenges.

The data shows that road transport companies are most concerned about the big global issues that dominate the international news agenda, rather than the more nuanced issues specific to the industry. According to the findings, the biggest perceived challenge is geopolitical uncertainty, with 57% of respondents citing this as a major threat to their business. The possibility of another global recession and worries about keeping up with increasing customer demand come joint-second, with 52% of respondents mentioning each of these issues.

Despite these challenges, the road transport industry recognises that in an ever-more competitive business environment, technology-driven innovation has the potential to unlock immense opportunities. They see successful adoption of technology as key to long-term survival.

When considering how technology will best be able to change the industry, companies across the world agree that the biggest room for improvement lies in the area of safety. One in three (33%) transport companies in Europe, the GCC and Asia named this issue as the top priority.

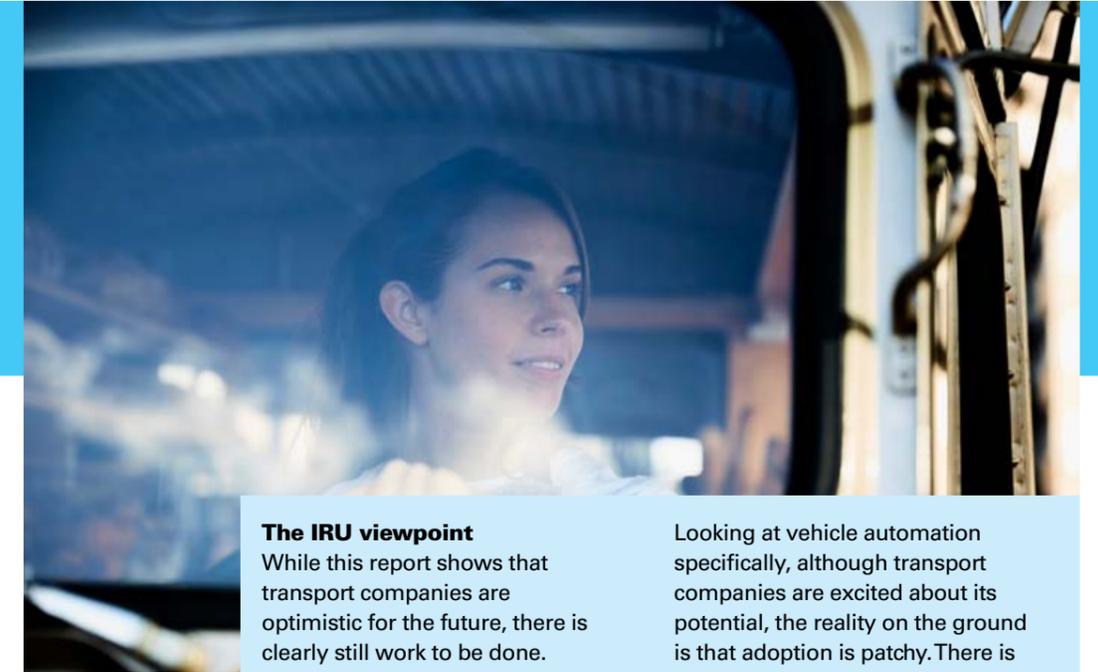
Possible innovations could include greater adoption of already-widespread electronic stability programmes (ESP) and anti-lock braking systems (ABS), or newer technologies to assist drivers on the road and help prevent the greatest cause of accidents – human error.

For a further one in five, automation is the biggest innovation opportunity, a term encompassing everything from driving assisted systems to fully-automated driverless trucks.

Telematics is also an engaging prospect for road transport companies, who recognise that developments in areas such as smart fleet management could optimise operations and cut costs.

Overall, the vast majority (92%) of the industry believes that improved safety for drivers will be a key benefit brought by technology and innovation.

But they are mindful of the difference that continued improvements to the optimisation and efficiency, as well as environmental-sustainability, of their operations will make. Four in five (80%) of respondents from transport companies across the three regions believe that new fleet management solutions, new digital platforms for vehicles and telematics on board will boost productivity. Greater engine efficiency is seen as the biggest opportunity across all regions when it comes to environmental benefits.



The IRU viewpoint

While this report shows that transport companies are optimistic for the future, there is clearly still work to be done.

As the world road transport organisation, IRU promotes economic growth, prosperity and safety through the sustainable mobility of people and goods. The organisation does this by bringing together operators, associations, industry suppliers and other stakeholders from around the world.

First and foremost, to overcome the barriers that stand in the way of truly innovating the industry, we must see greater collaboration.

The industry will require collaboration from governments around the world in order to make successful adoption a reality. But they must in turn proactively engage with stakeholders when it comes to improving infrastructure and creating an effective regulation framework worldwide.

Looking at vehicle automation specifically, although transport companies are excited about its potential, the reality on the ground is that adoption is patchy. There is a long way to go before driverless trucks are a safe, secure and sustainable option worldwide.

Pockets of the industry have yet to embrace less advanced technologies and processes, and there is still much to do to fix the digital foundations of the industry before technology-driven innovation can be optimised properly.

IRU will continue working hard to foster relationships between operators, service providers, manufacturers and governments to nurture a supportive environment for digitisation. We are fully committed to cultivating closer collaboration, greater harmonisation, and better knowledge sharing.

Transport companies are particularly excited – and surprisingly optimistic – about a future with autonomous trucks. Over three quarters of the companies surveyed expect they will become a viable option within the next decade, with nearly a third even confident of this happening in the next five years.

But for automation, as with all technology-driven innovation, significant barriers remain. Much work still needs to be done to guarantee successful worldwide technology adoption.

The nature of their concern differs according to location, but generally transport companies agree on the biggest challenges, with nearly three quarters (71%) citing cost and investment, and half (50%) feeling that there is a limited understanding of the available range of emerging technologies available.

Industry snapshot: global trends in road transport

The impact of unprecedented global upheaval and uncertainty

The global outlook for the road transport industry has never been characterised by so much change and so many challenges.

Recent geopolitical and economic disruption has shaken the Old World Order to its foundations, ushering in an era of disruption and uncertainty which threatens frictionless cross-border commerce and free-flowing trade.

In its World Economic Outlook in October 2018, the International Monetary Fund (IMF) issued a stark warning about the damaging impact of burgeoning international trade wars and Brexit. Downgrading global growth forecasts for 2018, the IMF pointed to higher trade barriers as having the potential to slow the spread of technology and reduce productivity in many countries.

For the road transport industry – one of the most important drivers of global economic growth and productivity – these gathering clouds pose a significant concern. Because, in spite of the precarious outlook for the global economy, demand for international road transport services continues to grow apace.

Macro events that threaten to put the brakes on global commerce will therefore have a much wider knock-on effect on the economic health of nations across the world.

An industry under pressure

Geopolitical uncertainty aside, the industry is experiencing its own set of growing pains as the landscape of road transportation continues to evolve at a staggering pace. Technology-driven disruption is shaking up the sector, and it presents a new set of challenges – from cyber security concerns to skills shortfalls. Transport companies are being forced to evolve their operations and embrace digitisation or risk being left behind.

At the same time, as the volume of freight on our roads continues to increase, the decarbonisation of road transport has become a top priority for governments and international organisations. There is no question that the sector has made important strides in reducing emissions. However, there is still more to be done, and it must be recognised that further investment in cleaner technologies can be a significant financial challenge for some smaller operators.

The view from the frontline

In the context of this upheaval and uncertainty, it is more important than ever to have a clear and current understanding of the view from the frontline of road transport.

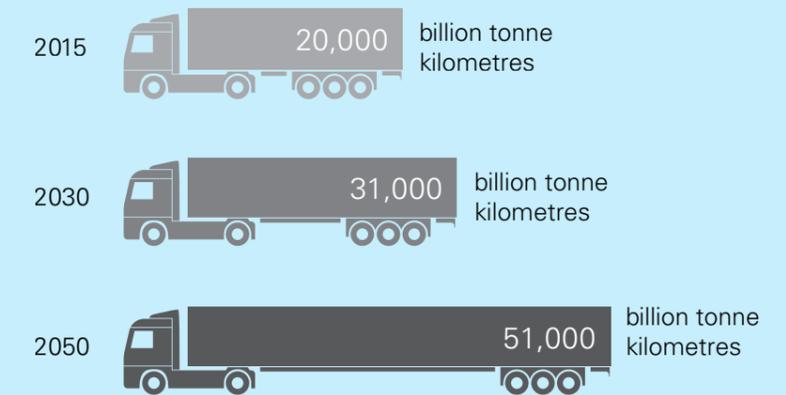
This is why IRU has undertaken a comprehensive survey of transport companies in three key strategic regions for road transport and trade – Europe, the Gulf Cooperation Council countries, and Asia.

By targeting both large and small transport operators, freight forwarders and brokers working in road transport, IRU has created an industry barometer that reflects the opinions of those ‘at the wheel’ of the road transport sector.

The findings of the survey offer an invaluable insight into the threats, challenges and opportunities faced by the road transport sector, and provide an important steer for sector stakeholders on how they can better support all actors in the road transport industry, now and in the future.

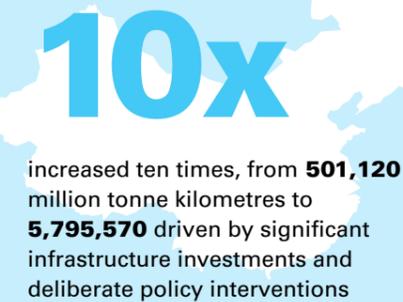
Global demand for road transport is on the rise. By 2030, road transport is expected to move 31,000 billion tonne kilometres globally and up to 51,000 by 2050.

Predicted global demand for road transport



But the shape of road transport across the world is shifting radically – with new transport corridors opening up and new trade routes being established.

China



India



However, growth in road transport in Europe has tailed off in the last decade.

Europe

According to the European Commission, over the past ten years road transport in the EU 28 has grown at a



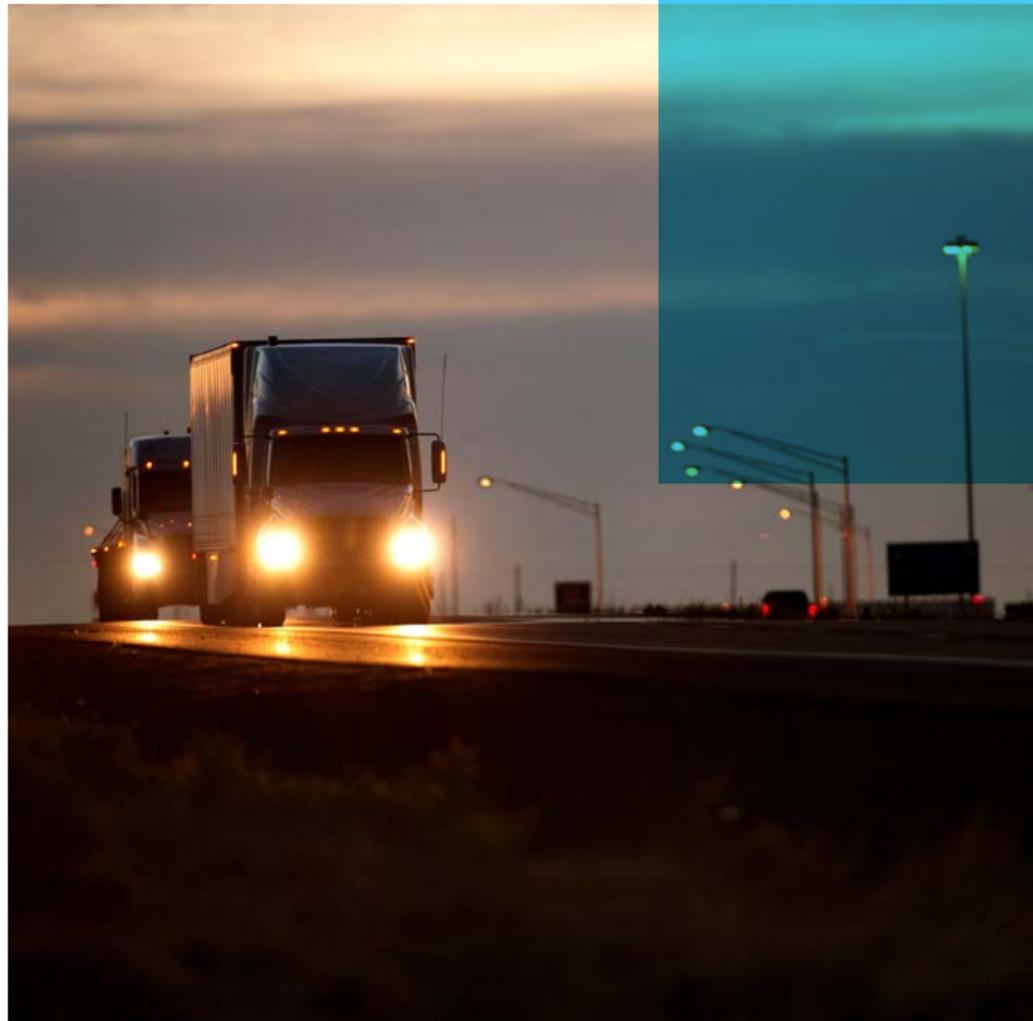
than GDP at constant prices.

While freight demand across Europe is not forecast to increase significantly in the near future, experts predict that elsewhere there will be huge growth. In Asia, tonne kilometres from surface freight are estimated to increase by a factor of 3.2 from 2015 to 2050, accounting for over two-thirds of all surface freight globally.

Revealed: the top threats to global road transport

Research into the attitudes of transport companies, conducted as part of this IRU study, reveals that all over the world the outlook for transport companies is clouded by political, social and economic uncertainty. As international trade wars continue to escalate, and with growing concerns about how to keep transport flowing post Brexit, operators are understandably concerned about 'macro' global issues impacting negatively on their day-to-day operations.

We asked transport companies to think about significant global issues facing the transport sector and to rate the biggest threats to the development of their business.



48% 

of transport companies in Asia see climate and environmental change as a significant threat

Globally, road transport companies consider their three biggest challenges to be geopolitical uncertainty, global recession and the challenges of keeping up with changing customer demand.

The majority of transport operators across every region surveyed (57%) view geopolitical uncertainty as the biggest threat facing road transport. The risk of global recession and the challenge of keeping up with changing customer demand come a close joint-second at 52%.

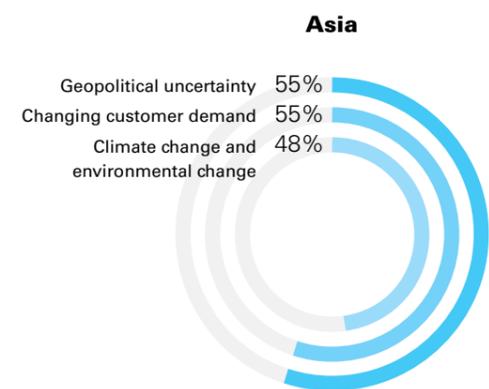
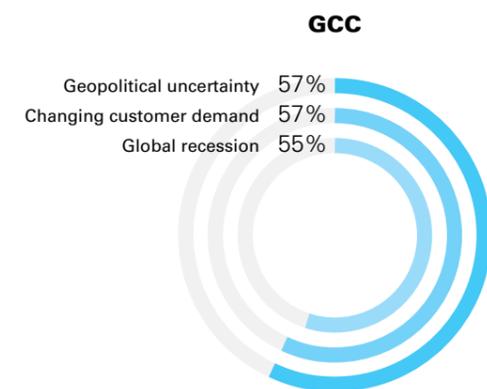
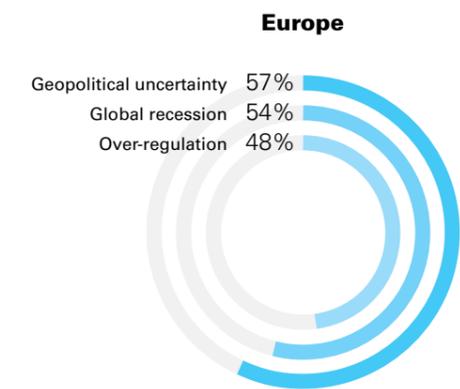
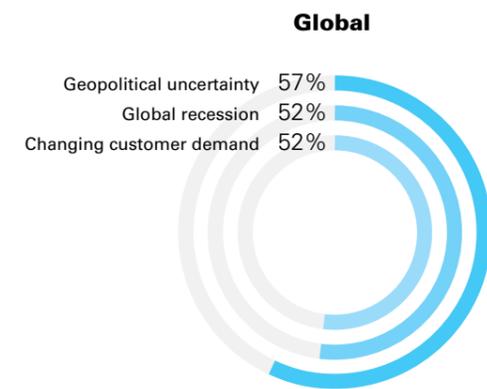
The view from the GCC and Asia
For transport companies in the GCC countries and Asia, keeping up with changing customer demand is on a par with geopolitical uncertainty as a top threat to their business. This perhaps reflects the rapid economic growth in Asia and the GCC region as well as the resulting increase in demand for freight transport to meet consumer demand.

Transport companies in Asia see climate and environmental change as a much more significant threat than operators in Europe and the GCC. This too could reflect the explosion of demand for freight and mobility services in recent decades in Asia. Similarly, it could be a product of the high-profile policy initiatives that seek to use regulation as a lever to encourage decarbonisation and mitigate the environmental impact of road transport.

57% 

of transport operators surveyed viewed geopolitical uncertainty as the biggest threat facing road transport

The biggest threats facing road transport companies



Spotlight on Europe

Geopolitical uncertainty, Brexit and global recession top the list of threats for European transport companies (57%), as they contemplate the unprecedented challenge of remaining operational in the case of a no deal scenario.

Likewise, as the far-reaching impact of the EU Mobility Package begins to be felt, overregulation is a significant concern for a large proportion of European transport companies - almost half (48%) of those surveyed in Europe cited this as one of the top three biggest threats to their business.

Uncertainty about the future of the road transport industry is compounded by a growing European driver shortage, which left unchecked has the potential to cripple the sector. Without a sufficient number of drivers to meet the growing demand from businesses and consumers for 'right here, right now' delivery, there is a very real risk that the demand for goods and services outstrips the supply of drivers. Brexit and the restrictions of free movement of goods and people, vehicles and drivers has the potential to exacerbate this issue further if no agreement can be reached between the UK and the European Commission.

The worst deal would be a no deal Brexit.

Matthias Maedge, General Delegate of the Permanent Delegation to the EU, IRU:

"Leaving the EU without a comprehensive multilateral deal on road transport and trade would be the worst possible outcome for the road transport industry, with serious knock-on effects for the economies of both the UK and remaining EU members. Transport and trade could grind to a halt and businesses and livelihoods would be threatened.

Currently there is no system more seamless than a customs union. Without a customs union, the UK and EU must take steps to minimise disruption. This means ensuring a transition period of sufficient length to allow business to adapt. It means no increase in red tape or complexity for vehicles post-Brexit. And it means maintaining smooth and seamless transport and trade between the UK and EU.

The industry must have clarity in order to facilitate proper business planning for transport operators. It is also essential that certain policies, such as driving licences and free movement of labour, are not put on the waiting list during negotiations. This would have dire consequences for our industry.

IRU is currently working with governments, policy makers and with the sector to ensure the best possible deal for road transport. We want to see concrete provisions for the free movement of goods, access to the road transport and labour markets, the mutual recognition of documents and certificates and clear customs procedures."

"Leaving the EU without a comprehensive deal on road transport and trade would be the worst possible outcome for the road transport industry"

Matthias Maedge, General Delegate of the Permanent Delegation to the EU, IRU

48%



of those surveyed in Europe cited overregulation as one of the top three biggest threats to their business

The view from IRU

Boris Blanche, Managing Director, IRU

"In today's turbulent political and economic climate, it is no surprise that there is a feeling of uncertainty and anxiety in the global road transport industry.

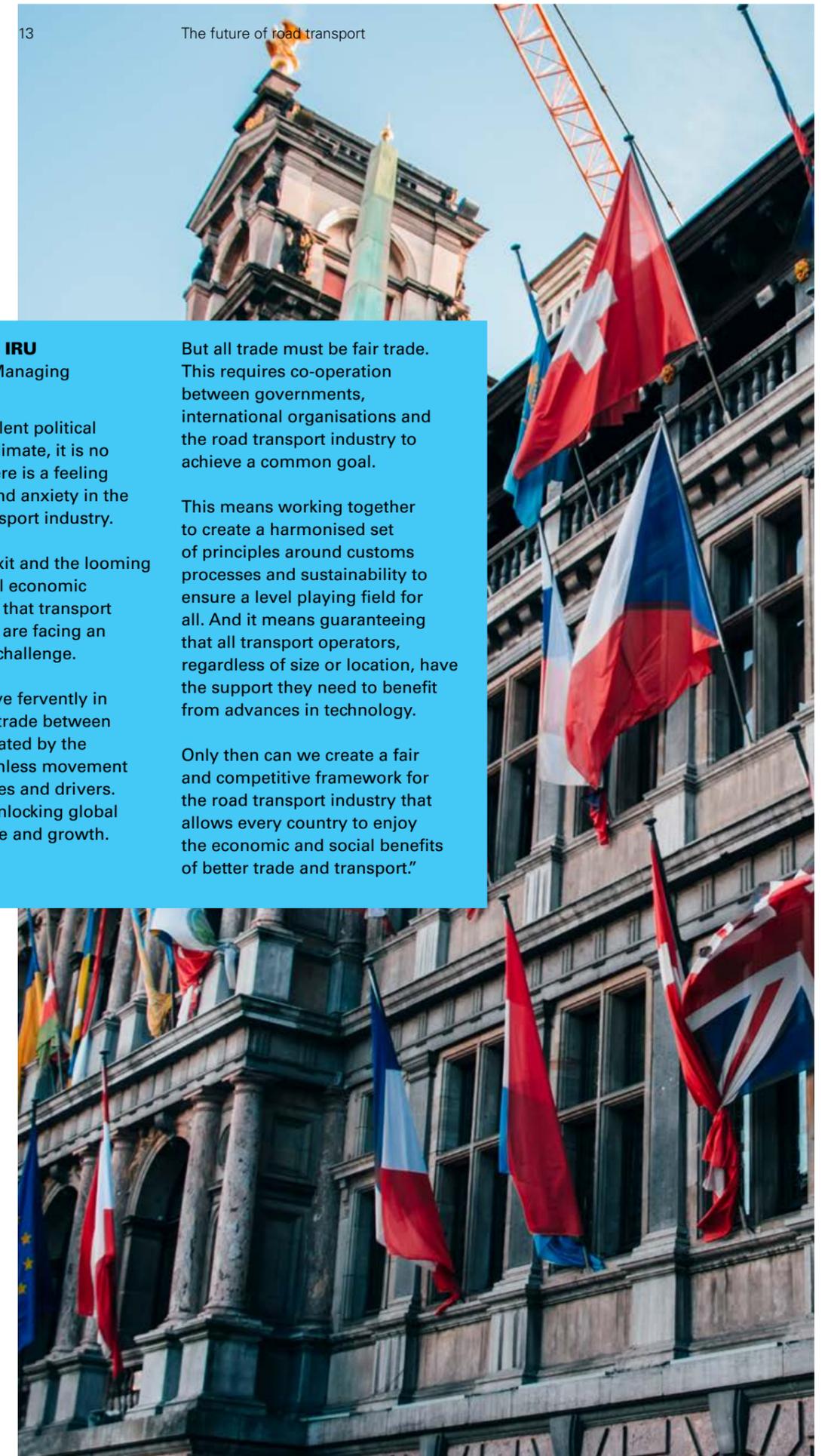
Trade wars, Brexit and the looming spectre of global economic downturn mean that transport operators today are facing an unprecedented challenge.

At IRU we believe fervently in the flow of free trade between countries, facilitated by the secure and seamless movement of goods, vehicles and drivers. It is the key to unlocking global prosperity, peace and growth.

But all trade must be fair trade. This requires co-operation between governments, international organisations and the road transport industry to achieve a common goal.

This means working together to create a harmonised set of principles around customs processes and sustainability to ensure a level playing field for all. And it means guaranteeing that all transport operators, regardless of size or location, have the support they need to benefit from advances in technology.

Only then can we create a fair and competitive framework for the road transport industry that allows every country to enjoy the economic and social benefits of better trade and transport."



Unlocking the innovation opportunity

Technological transformation: threat or opportunity?

The transport industry is undergoing a period of immense change. Digitisation and innovative operational practices are rewriting the rules of the game. New operating models such as dynamic digital freight exchanges are growing in popularity. New market entrants - from tech giants to manufacturers - are moving in alongside transport companies to offer freight and mobility services.

Remaining competitive and sustainable in this new world order is becoming ever more challenging for operators who are behind the curve when it comes to adopting technology.

Evolve to survive: embracing disruption to stay competitive

But at the same time, technology is the key to ensuring the long-term survival and success of the industry and vital for allowing smaller operators to thrive and compete with the bigger players.

Automation, electric vehicles and digitisation of the industry will all drive efficiencies to help meet the ever-increasing consumer demand for goods. Meanwhile, the disruptors joining the industry bring with them a multitude of opportunities and new technologies.

Removing the road blocks to digitisation

IRU research shows that transport companies today recognise the transformational benefits technology and innovation can deliver - from a commercial, operational and environmental point of view - with the majority already embracing the opportunity and investing where they can.

However, the data also shows that there remain significant barriers to the successful and sustainable adoption of technology driven innovation. Amongst both transport companies and the industries relying heavily on transport and logistics, there is a recognition that the high cost of investment and a limited understanding of emerging technologies available are preventing businesses from realising the full benefits.

Technology and innovation: what are the major opportunities?

Safety first

Transport companies across all three regions surveyed consider safe driving technology as the biggest innovation opportunity – one in three (33%) transport companies in Europe, the GCC and Asia named it as the top priority.

For GCC countries, safety becomes even more important, with 36% of transport companies putting it at the top.

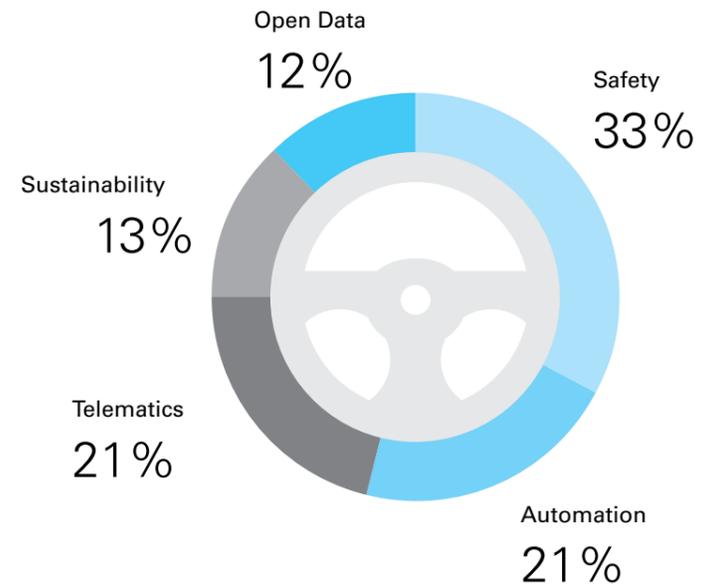
There are a number of technologies that will enhance road safety, and these will vary from region to region. They include everything from fairly well established systems like electronic stability programmes (ESP) or anti-lock braking system (ABS), to cutting edge technologies like radar systems to allow communications between vehicles. With 85% of all accidents being caused by human error, there is also huge potential for assisted driving technologies to help drivers avoid accidents and improve safety on the roads.

For one in five (21%) transport companies globally, automation and telematics are the biggest innovation opportunities for world transport. Automation encompasses the full spectrum, from driving assisted systems to fully driverless trucks. Telematics in transport provides opportunities to improve in an array of areas, including better fleet management to optimise operations.

1 in 5 

transport companies globally believe automation and telematics are the biggest innovation opportunities for world transport

Biggest innovation opportunities for transport companies globally



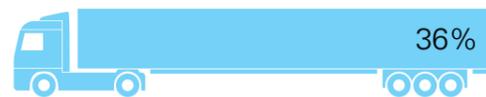
Safety and automation are the biggest opportunities in innovation and technology across all regions

Safety

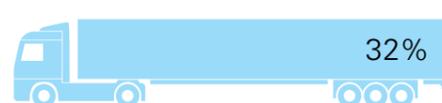
Europe



GCC



Asia



Automation

Europe



GCC



Asia



How will innovation add value to transport companies?

Innovation is seen as key to unlocking and enhancing productivity. Road safety innovation is also perceived to have a wider set of benefits – from enhancing productivity to creating a competitive edge and meeting customer demand. While in the context of automation and telematics, an increase in productivity goes hand in hand with the opportunity to reduce costs.



Unpacking the transformation opportunity

The transformative power of technology is very much under the spotlight. But what is the tangible opportunity for transport companies to turn the potential benefits of innovation and technology into reality?

Top ways in which innovation and technology will optimise operations and boost productivity for transport companies globally:



1. Enhancing working conditions and keeping drivers safe



2. Optimising operations and boosting productivity



3. Helping operators become more sustainable and environmental

1. Enhancing working conditions and keeping drivers safe

A majority (92%) of transport companies across every region believe that improving safety while driving is one of the top benefits of technology and innovation. The use of intelligent transport systems to reduce difficult driving conditions, enhance safety and mobility and help trip organisation are also extremely important. In Europe, transport companies are also looking to find new systems for loading and unloading vehicles, in order to reduce journey lengths and improve worker conditions.

Also important are the softer benefits. Transport companies across all three regions recognise the role that technology has to play in connecting drivers and creating a sense of community. This suggests that there is an opportunity to harness technology to tackle some of the key concerns and reservations that drivers currently have about their profession – namely being away from home and their families, isolation and loneliness.

Top benefits of technology and innovation globally



Improve safety while driving

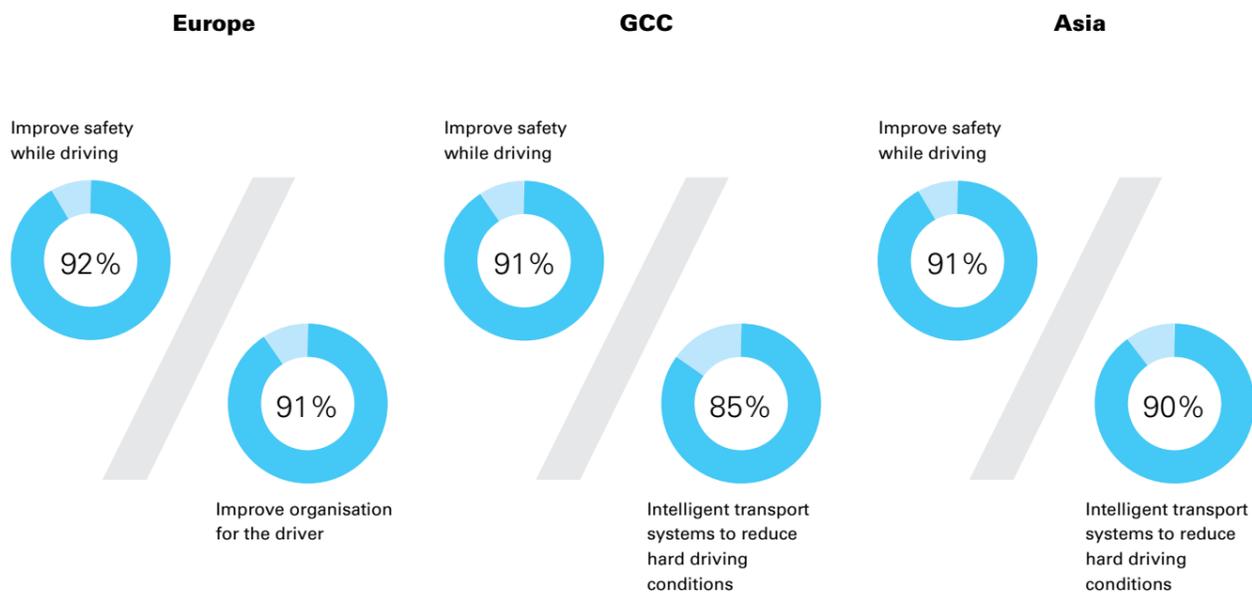


Intelligent transport systems to reduce hard driving conditions



Improve trip organisation for the driver

Top ways in which technology and innovation will improve working conditions for drivers



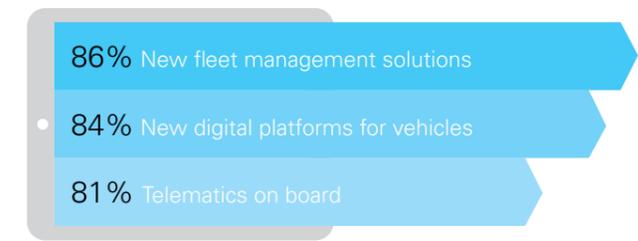
2. Optimising operations and boosting productivity

Over 80% of respondents from transport companies across the three regions believe that new fleet management solutions, new digital platforms for vehicles, and telematics on board are key to boosting productivity.

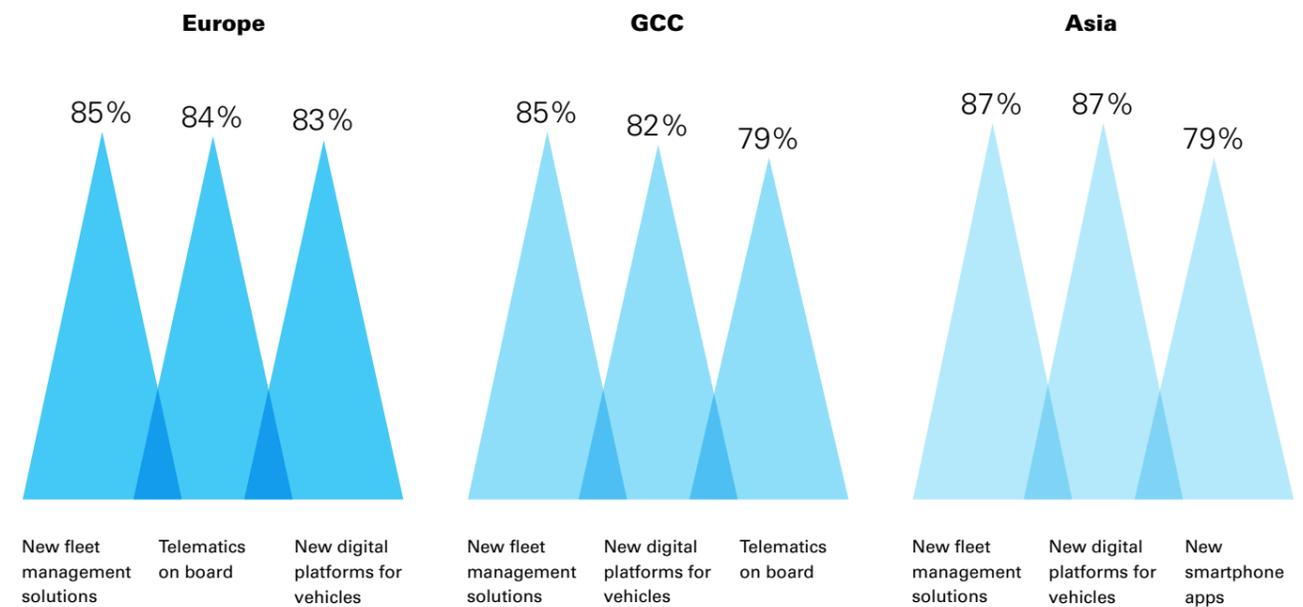
In Europe, electronic documentation also rates highly as a driver of productivity. Indeed digital documents such as e-CMR and TIR can have a hugely beneficial impact on the industry, greatly improving efficiency and ultimately making trade significantly easier for businesses.

For European transport companies, e-learning also has a significant role to play in boosting productivity as it allows operators to make the best use of driver down time, and gives drivers the freedom and flexibility to organise their training around their schedules, regardless of location.

Top ways in which innovation will optimise operations and boost productivity



Top ways in which technology and innovation will optimise operations and boost productivity



3. Helping operators become more sustainable and environmental

When asked how technology and innovation could help transport companies become more sustainable and environmental, the findings demonstrate close correlation and overlap between the various technologies and innovation opportunities.

An overwhelming majority of transport companies recognise the positive impact that technology-driven innovation can have in helping them to become more sustainable and environmental.

Greater engine efficiency is seen as being the biggest opportunity across all regions. Decarbonisation is also seen as a key benefit of technology and innovation.

The impact of alternative fuel technologies is seen as less significant by global transport companies, suggesting that despite high profile investments in this area, the industry still does not view them as a viable alternative to diesel. While new emerging technologies in the fields of electrification and hydrogen could play a role in the future, they remain some way off becoming a reality for transport companies undertaking predominantly long-distance journeys.

There are regional variations in opinions about alternative fuels, with European transport companies in particular believing they have significant potential.

Top ways in which technology and innovation will help transport operators become more sustainable and environmental

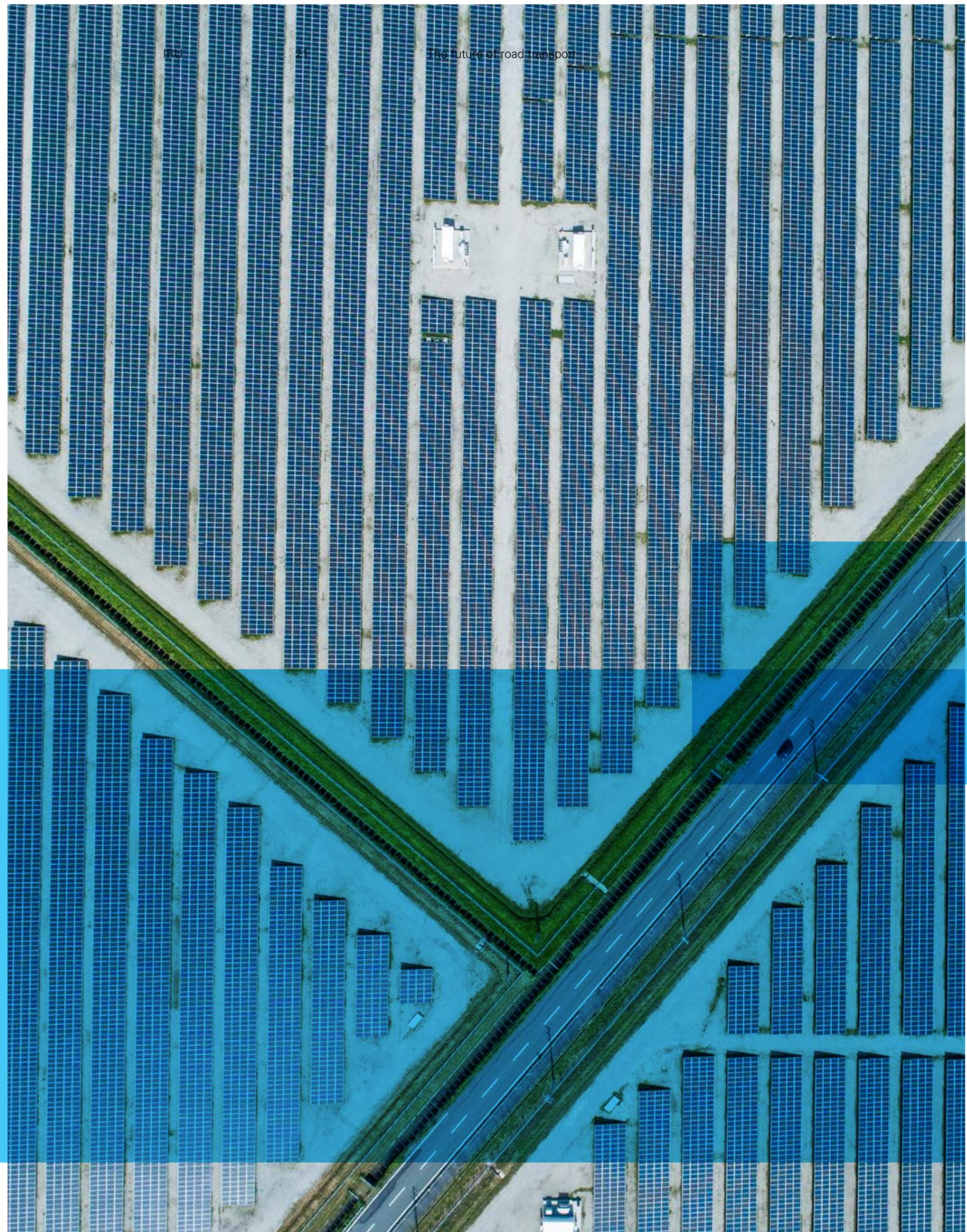
Engine efficiency



Decarbonisation in transport



Alternative fuel technologies



Spotlight on autonomous trucks

The view from transport companies

Over three quarters of transport companies surveyed expect autonomous trucks to become a viable option for the road transport industry within the next decade. Of these, 29% believe they will be a reality on our roads in the next five years.

In fact, one in five transport companies surveyed globally believe automation is the biggest innovation opportunity for the sector - only second to road safety technology. Transport companies believe the primary benefit of automation will be boosting productivity (50%), followed by helping to cut costs (19%).

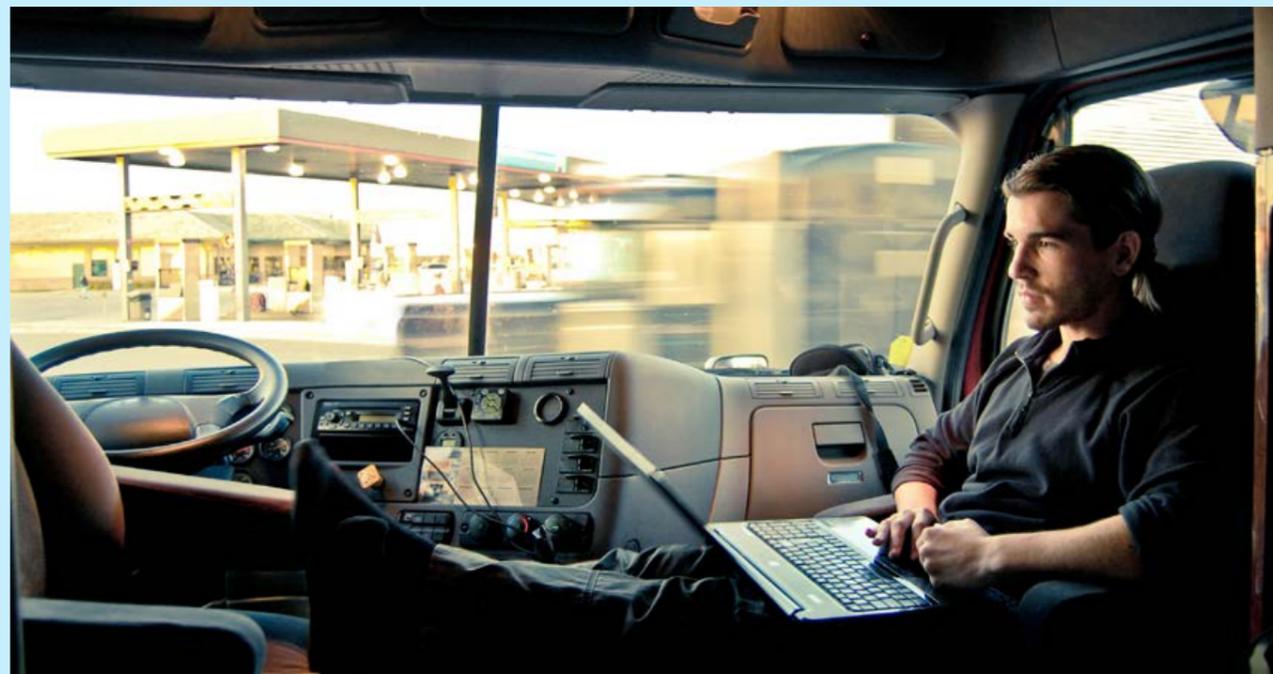
There are notable variations in the attitudes of transport companies to autonomous trucks across the three regions surveyed.

There is significantly more optimism about autonomous trucks in the GCC region – over a third of transport companies (35%) believe they will be a viable option for road transport within five years.

Asian operators are similarly positive about the prospects of autonomous vehicles – 31% believe they will be on the roads in five years.

In Europe the outlook is more cautious – with only one in five transport companies believing autonomous trucks are a realistic proposition in the next five years.

Transport companies who believe autonomous trucks will become a reality on our roads in the next ten years



The view from IRU

Zeljko Jeftic, Global Innovation Lead, IRU

Are we there yet? A lot still to be done before we see widespread adoption of autonomous trucks on our roads.

The survey findings from transport companies across Europe, the GCC and Asia paint an optimistic picture of the viability of autonomous trucks in road transport.

There is no question that autonomous trucks have the potential to be transformative for the industry. They will one day be a common sight on the roads and mainstay of the industry, helping boost productivity, create efficiencies and enhance driver working conditions. This future is not a million miles away, indeed there are already some autonomous trucks operating in confined environments.

However, we still have some way to go before they become a **safe, secure and sustainable** option on every road and in every transport operation worldwide, and it is vital that we remain realistic about the timescales for automation. With all the hype and headlines being generated by manufacturers and tech companies, it is easy to overestimate our readiness as an industry for truly driverless trucks.

We foresee that automation will start with gradual implementations in certain areas (such as ports), with limited speeds and relatively simple operating environments and will continue growing its capabilities geographically step-by-step, with higher speeds and higher levels of autonomy.

While the vehicle technology required for automation is already relatively sophisticated, it will take years before we have the legislation and infrastructure in place for them to start appearing widely on roads across the world, and a further 10-15 years before we see adoption and impact at significant scale.

Full automation will not happen overnight – rather it will be a phased process.

Today, we see some cars and trucks on the market that achieve partial automation – for example active cruise control and active steering support. Many vehicle manufacturers can build vehicles that could drive autonomously for hundreds of kilometres on motorways with good lane markings, no pot holes and no road works. However, the big challenge comes in non-optimal or complicated conditions – poor weather, urban driving or where there are road works. This is not yet something that technology is ready to solve.

“We still have some way to go before autonomous vehicles become a safe, secure and sustainable option on every road and in every transport operation worldwide.”

Zeljko Jeftic, Global Innovation Lead, IRU



A gradual and managed transition to automation

With this in mind, we must be wary of viewing autonomous trucks as a remedy for the current global driver shortage. Automation does not mean reduced demand for drivers. An autonomous truck of the near future will more than likely have a driver onboard who will be able to take over more challenging driving tasks when required. This might demand a new and broader skillset for truck drivers, but it does not mean that drivers will no longer be required.

Moreover, we need substantial transport, infrastructure and regulatory reform before safe driverless trucks become a reality on our roads. This will require a significant overhaul of the global

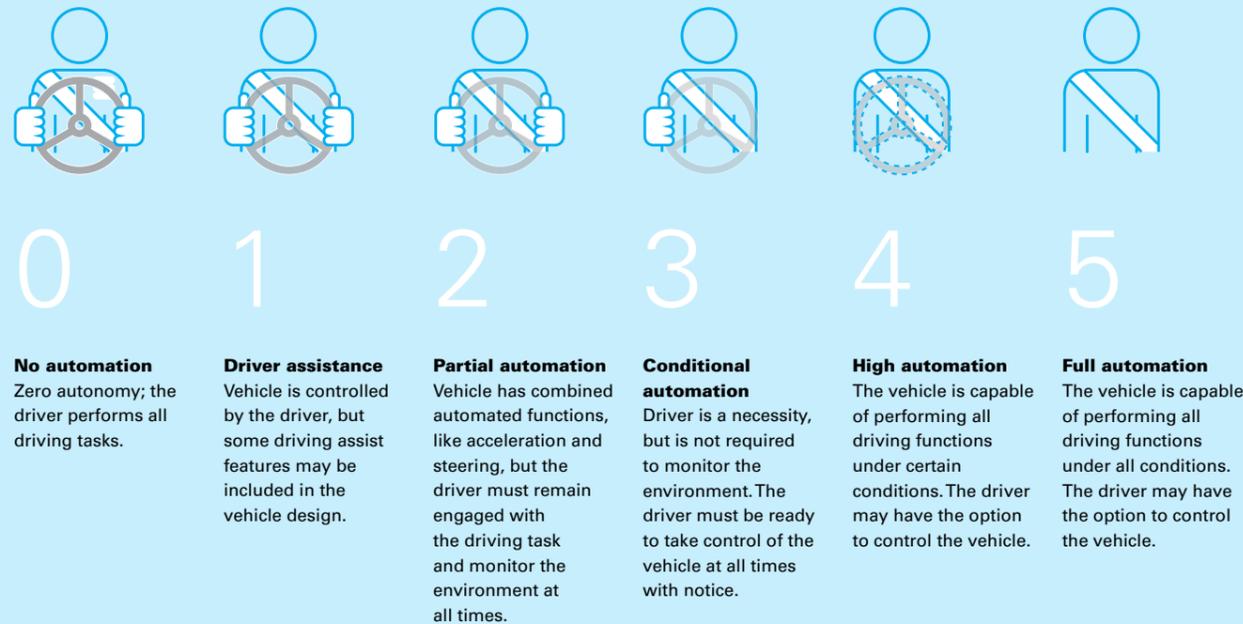
transport system, a new approach to recruiting and training the workforce, the reconfiguring of roads and transport networks and the global digitisation of all logistics processes including border control.

To meet this challenge, the industry needs to come together with regulators to ensure the transition is carefully and gradually managed, and that the right processes, people and protections are in place.

IRU's role is to facilitate this - bringing together transport operators, manufacturers, big tech and policy makers to create a clear road map for the future.

“We need substantial transport, infrastructure and regulatory reform before safe driverless trucks become a reality on our roads.”

The five standard levels of vehicle automation



Roadblocks to adopting technology driven innovation (TDI)

There is little doubt that transport companies are aware of the huge opportunities technology can bring. Nonetheless substantial barriers to the successful adoption of technology driven innovation still exist.

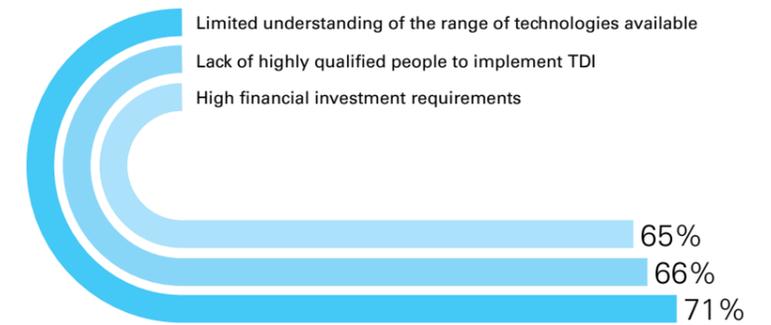
The size and severity of these barriers varies significantly by region.

For European operators, the biggest barrier to embracing new technologies is the high financial investment. A lack of highly qualified people, plus a limited understanding of the range of new emerging technologies available also present a challenge.

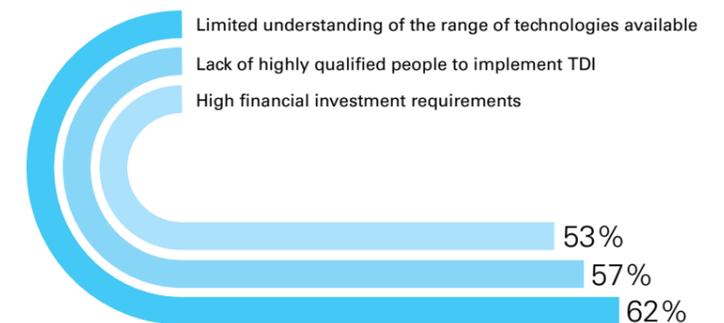
Transport companies in the GCC and Asia do not see high financial investment as such a barrier. For these regions, understanding the range of technologies available is the single biggest barrier.

Roadblocks to innovation

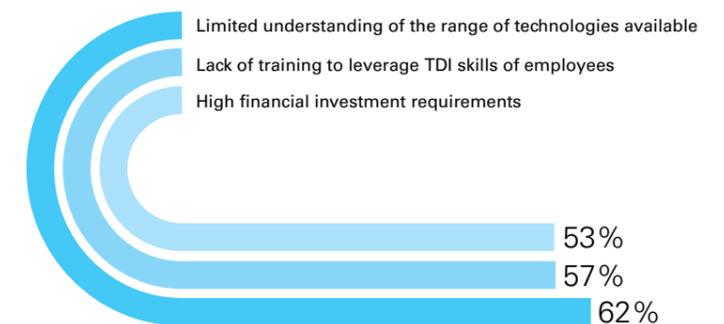
Europe



GCC



Asia



Umberto de Pretto

IRU Secretary General

“Joining the dots to innovate in road transport

Transport and logistics are leading the digital revolution. Electrification, automation and mobility as a service are transforming trade, economies and global development.

But in order to serve the world of tomorrow, which is already upon us, the transformation must be quick and inclusive. This means the right foundations need to be in place across the industry.

While the pace of change is accelerating, progress is patchy. Some businesses and operators are at the cutting edge of technological transformation, but others struggle to keep up, and the barriers that stop them from doing so must be addressed.

Technology can bring huge advantages to small and medium operators, often without huge investment. But to realise this requires awareness and understanding of emerging technologies and the benefits they bring.

We need to focus on delivering the basic building blocks of digitisation for all, and harness technology to solve basic operational challenges, such as moving to digital documentation (e-CMR) and improving traceability, security and efficiency.

International organisations have a vital role to play in driving technology innovation and

enforcing harmonised standards across the world. We work closely with the UN in this respect. Last year we welcomed a new resolution which recognises the significance of road transport innovations in tackling global environmental challenges and invites more governments to introduce the digital consignment note (e-CMR).

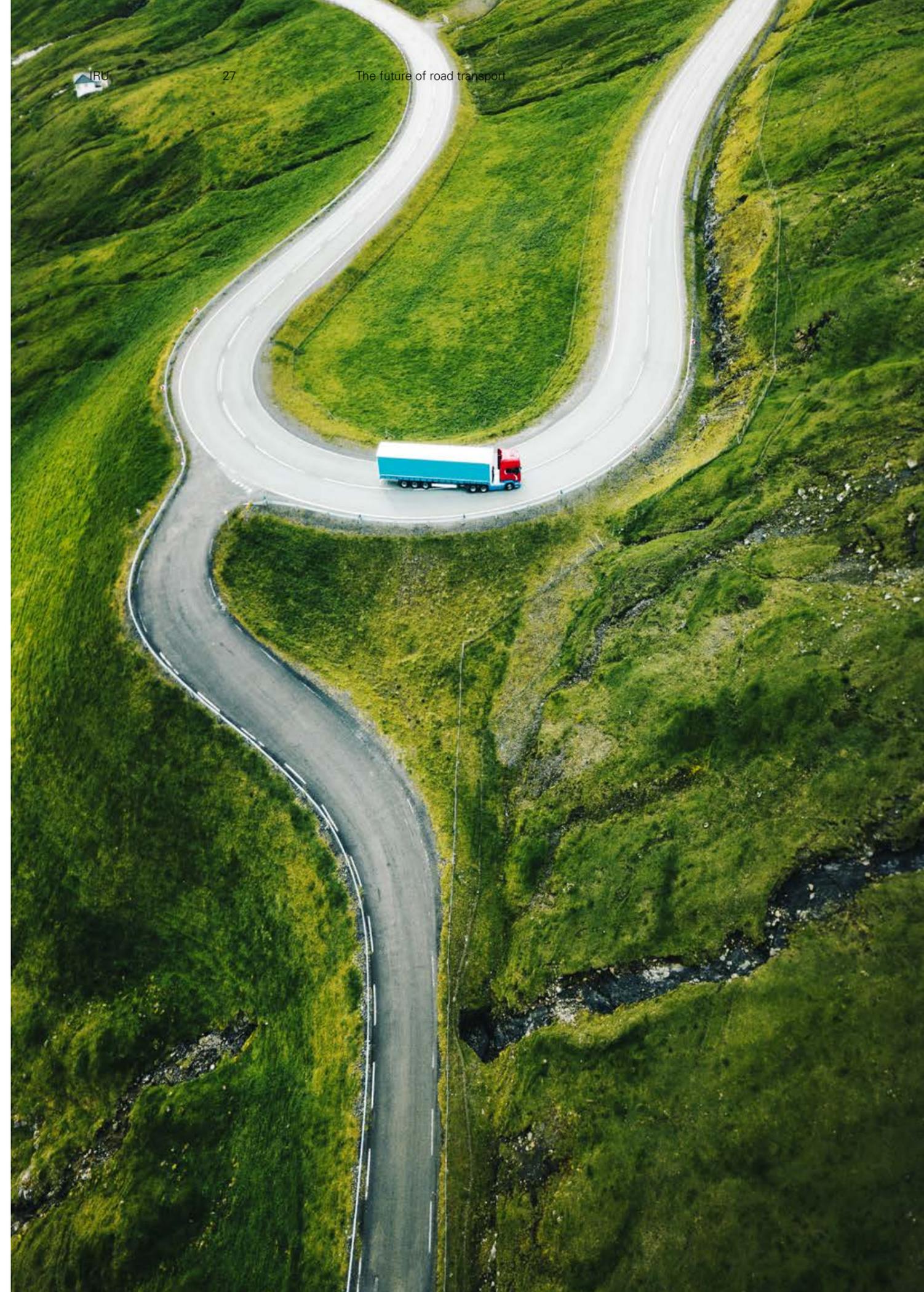
We are striving for global change, but success will depend on local action. New innovations need the buy-in from industry players in individual countries as much as governments and global organisations. This is why national transport associations sit at the core of our membership, which jointly represents close to one million transport operators.

We must work harder to join the dots between operators, service providers, manufacturers and governments to nurture a supportive environment for digitisation. We must cultivate closer collaboration, greater harmonisation, and better knowledge sharing.

At IRU, we will continue to lead these discussions to help everyone in the industry seize the opportunities that new technology and innovation offer. Our goal is to create a more efficient, professional and sustainable sector, ready to embrace the challenges and opportunities of tomorrow.”

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Conclusions and recommendations

1. Levelling the playing field by overcoming barriers to innovation



Insight: Survey findings demonstrate that the benefits of technology and innovation are widely appreciated and understood by transport companies – from productivity and efficiency gains, to environmental wins and safety improvements.

The data also reveals an industry optimistic about the timescale for autonomous trucks on the roads – 76% believe this will become a reality within a decade.

However, the survey does uncover persistent barriers to technology-driven innovation in parts of the industry. In Europe, high investment is the greatest challenge, while for the GCC and Asia, a limited understanding of new and emerging technologies is perceived as the biggest barrier.



Analysis: Innovation is the only way to future-proof the road transport industry. However, there is the risk of a gap beginning to open up between the pioneering players at the sharp end of technological transformation, and the rest of the industry who are playing catch up. In fact, some transport operators across the world are yet to embrace even the more basic new technologies – prevented from doing so by high costs or a lack of skills and technical knowledge.

Likewise, while many operators believe that autonomous trucks are just around the corner, in reality there is still a way to go before the conditions are in place for large-scale adoption. As automation technology advances and systems are implemented and tested on a wider scale, it is clear the transition phase needs to be proactively managed to guarantee a level playing field for all.



Action: To overcome these barriers and pave the way for widespread adoption of technology, collaboration between all actors in the road transport sector will be required.

The industry will require government interventions and incentives. But it will in turn need to proactively engage with all stakeholders – including governments, local authorities and legal experts – to shape the best practices to support the journey towards automation. Only this will ensure the safe, secure and sustainable operation of autonomous vehicles.

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2. Enhancing road safety through technology



Insight: One of the key findings of this research is the enormous importance transport companies place on technology as a means to improve safety. According to transport companies surveyed in all three regions, safe driving technology is the biggest innovation opportunity – with one in three transport companies in Europe, the GCC and Asia naming it as the top priority.



Analysis: Accidents involving trucks are becoming less frequent thanks to technology improvements. But 85% of accidents are still caused by human error. So while technology can certainly support the driver and help to reduce the severity of accidents, this must also go hand in hand with better training of drivers and other road users. Without a high level of training as the number one priority, the beneficial impact of technology on road safety can only ever be limited.



Action: There is an opportunity to create a broad coalition of tech companies, manufacturers, training providers, operators and governments to further develop new innovative technology-led solutions to improve safety. In particular, more can be done to harness technology to improve training of drivers – for example, more widespread mobile or e-learning, or greater access to technology that can simulate real-life road conditions when training drivers.

3. Forging a sustainable future for road transport



Insight: An overwhelming majority of transport companies recognise the power technology-driven innovation has to help the industry become more sustainable and environmentally friendly.

Across all three regions, technology is seen as the key to unlocking greater engine efficiency and reducing carbon emissions. For European operators, alternative fuel technology is also seen as a significant opportunity.



Analysis: Technology has a huge part to play in the drive towards the decarbonisation of road transport. As an industry, we understand the responsibility we have to work towards low-emission mobility. We believe we can achieve this by taking a holistic view on reducing emissions, exploring opportunities to become cleaner through innovation, incentives and infrastructure.

We cannot rely on the road transport industry alone to drive change. It will require a public-private partnership to create the right environment for operators and manufacturers to invest in new, cleaner technologies.

This demands a stable and supportive regulatory environment to help operators to become greener. Governments must help operators become greener without burdening them with unsustainable costs that will jeopardise their viability.



Action: There are many ways in which the sector can decarbonise. These include:

- Optimising weight and dimensions of heavy commercial vehicles
- Smarter use of intelligent transport systems to provide better rather than more transport
- Investing in innovative engine and vehicle technology
- Training drivers to drive more eco-efficiently
- Platooning
- Traffic management efficiency improvements

4. Enhancing working conditions and tackling the shortage of drivers



Insight: According to the survey, a high proportion of transport companies believe that technology has promising potential to improve working conditions and enhance safety and security for drivers.

Intelligent transport systems, innovative loading systems and technologies that improve trip organisation are perceived as significant. So too are technologies that can connect drivers and create a sense of community to offset isolation.



Analysis: The commercial road transport sector is facing an acute shortage of drivers. To overcome this and encourage more people into the industry, we must improve conditions and quality of life for drivers. We must also address the sector's antiquated image to attract a new demographic – younger, more technically skilled people, and a greater number of women.

This survey demonstrates that technology has an important role to play in doing both these things. New and emerging technologies will have a significant material impact on the working conditions of drivers – reducing journey times and improving quality of 'life on the road'.

At the same time, as the industry digitises, drivers will not become superfluous, but there will be a gradual evolution in the skillset required for drivers – who will need to be increasingly tech and data savvy. This should help to reshape perceptions of the profession and encourage a younger and more diverse demographic into the industry.



Action: To capitalise on this opportunity, the sector will need a clear vision for the future of its human resources, and transport workers and operators must be properly trained and fit for the new digital challenges.

At the same time, the industry must look to technology-led innovations that can meaningfully enhance working conditions and help to keep drivers safe and secure. By embracing innovations in truck design, new digital training formats, and the latest in assisted driving, transport companies can help to make truck driving a more appealing career choice.



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