

# Game changer

Yearbook 2017

alTRan

02	Chairman & CEO Interview
05	Corporate Governance
06	Altran 2017 profile
08	<i>Altran 2020. Ignition</i>
10	Our financial performances in 2017

## Creating value for our clients

12	NATS
14	Thales Alenia Space
16	Vodafone
18	2getthere
19	ABB
20	Telefónica
22	Porsche
24	Nokia
26	Travelex
28	BT TV

## Outpacing Competition

30	Undisputed global leader
32	A world of possibilities
34	Understanding your business challenges
36	Expertise & IP where it counts the most
39	Industrialized delivery on a global scale
40	Key figures Altran + Aricent

Just as Altran partners with clients to support their transformative initiatives, the company continued its own transformation in 2017. With the acquisition of Aricent, completed in early 2018, Altran became the undisputed global leader in the Engineering and Research & Development industry. Even more than previously, Altran will enable its clients to bring products to market quicker, seize the opportunities of disruptive technologies, overcome regulatory challenges, boost R&D productivity and reinforce their competitive advantage.



**"Altran is positioned to set a new global standard for ER&D services. No one can match our value proposition to address clients' transformation and innovation needs."**

Dominique Cerutti, Chairman & CEO

In the wake of the acquisition of Aricent in March 2018, Altran Chairman and CEO Dominique Cerutti explains how the company is aligning to better meet customer needs and set a new global benchmark for Engineering and R&D services.

#### **How are the needs of leading clients for engineering and R&D services changing?**

Constant innovation across all aspects of our clients' activities is increasingly critical. To remain competitive, companies must not only deliver a constant stream of new products and services but also invent and implement innovative solutions for all business processes, at each step of their value chain. We see our most dynamic clients focusing their innovation resources on core areas that provide the greatest competitive edge and relying on innovation partnerships for everything else. This represents a landmark upheaval, and a huge opportunity, for their engineering and R&D providers.

#### **Does the Aricent acquisition constitute Altran's response to these changes?**

Aricent puts us at the head of the pack in our sector. Thanks to the acquisition, which builds on the transformation achieved over the past two years as part of the *Altran 2020. Ignition* strategic plan, Altran is positioned to set a new global standard for ER&D services.

For one, we enjoy the largest revenues in our industry at €2.9 billion. However, more importantly; we are the undisputed global leader because none of our competitors can match the range and depth of services we provide to clients. We have vastly increased our global scale and scope, with a well-balanced footprint across Europe, the US and Asia; we have extended our domain expertise across industries; we provide

unmatched capabilities in critical technologies such as design and software & system engineering; we offer the world's most industrialized, cost-efficient delivery model; and we benefit from strong relationships with clients.

No one can match our value proposition to address clients' transformation and innovation needs.

#### **What does the acquisition mean for Altran and Aricent clients?**

With enhanced scale and scope, Altran and Aricent clients can look forward to even better service

**"Our most dynamic clients are focusing their innovation resources on core areas that provide the greatest competitive edge and relying on innovation partnerships for everything else."**



than in the past. Our team now counts 45,000 technicians and engineers spread across some 30 countries and five Global Delivery Centers. As clients rely increasingly on innovation partnerships, they can benefit from our reinforced worldwide presence, leadership across most industries, and strong expertise in key technology domains. As we continue to build out our industrialized delivery model, they will enjoy access to ever more cost-efficient solutions for their engineering programs.

#### What synergies exist between the two organizations and how will they be realized?

There is remarkably little overlap between the two organizations' resources and markets. While Altran's traditional strength lies in Europe, Aricent relied on US-based clients for some 70% of revenue. While Altran's greatest strength was in the automotive and aerospace sectors, Aricent was focused on telecom and semiconductor clients. Leveraging these complementary strengths, our new combined senior management team is working to ensure smooth convergence throughout 2018. Management is focusing on such work streams as strategy and business performance, systems alignment, go-to-market approaches and organization.

#### What is Altran's strategy going forward?

As our convergence effort advances, we continue to move towards a more customer-centric model, with industry-leading delivery capability and fully industrialized, high-performance operations. As the undisputed global leader in ER&D, our single common goal is to create sustainable value for all stakeholders – employees, clients and shareholders. With global reach, deep industry expertise, technological mastery and cost-competitive and industrialized delivery models, we are well-positioned to achieve that goal. Altran will unveil a new strategic plan on its investor day on June 28, 2018.

**"We continue to move towards a more customer-centric model, with industry-leading delivery capability and fully industrialized, high-performance operations."**

# Corporate Governance

Altran is a public limited company governed by a Board of Directors and Executive Committee.

## Board of Directors

Altran is administered by a Board of Directors, whose members serve four-year terms. Four of Altran's Directors are independent. Both, the Audit and the Appointment and Remuneration Committees are chaired by independent directors. Four women serve on the Board.

Board membership as of this writing:

**Dominique Cerutti**, Chairman & CEO  
**Jean-Pierre Alix**  
**Amboise Partner SA** (formerly known as Apax Partners SA)  
**Christian Bret**  
**Martha Heitzmann-Crawford**  
**Sylvain Michel**, Employee representative  
**Nathalie Rachou**  
**Gilles Rigal**  
**Renuka Uppaluri**  
**Jaya Vaidhyanathan**  
**Thomas de Villeneuve**  
**Henry Capelle**, Censor

## Executive Committee

Executive Committee membership as of this writing:



**Dominique Cerutti**  
Chairman & CEO



**Cyril Roger**  
Senior Executive  
Vice-President  
Europe & Delegate  
Director



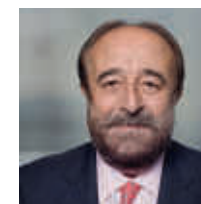
**Albin Jacquemont**  
Executive  
Vice-President,  
Chief Financial  
Officer



**Daniel Chaffraix**  
Executive  
Vice-President,  
Transformation  
and Executive Vice-  
President, North  
America & India



**Pascal Brier**  
Executive Vice-  
President Strategy,  
Innovation  
& Solutions



**José Ramón Magarzo**  
CEO Spain



**Marcel Patrignani**  
CEO Italy



**William Rozé**  
CEO France

# Altran 2017 profile

As a global leader in Engineering and R&D services (ER&D), Altran offers its clients a new way to innovate by developing the products and services of tomorrow. Altran works alongside its clients on every link in the value chain of their project, from conception to industrialization. For over thirty years, the Group has provided its expertise to key players in the Aerospace, Automotive, Defense, Energy, Finance, Life Sciences, Railway, and Telecom sectors, among others. In 2017, the Altran Group generated revenues of €2.282 billion. With a headcount of more than 33,000 employees, Altran is present in more than 20 countries.

**11**  
SECTORS



Automotive



Aeronautics



Space, Defense  
& Naval



Industries



Energy



Rail, Infrastructure  
& Transportation



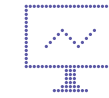
Life Sciences



Semiconductors  
& Electronics



Communications



Finance  
& Public sector



Software  
& Internet

**6**

KEY ACTIVITIES

Consulting  
Digital  
Engineering  
World Class Centers  
Industrialized GlobalShore®  
Innovative product development

**7**

WORLD CLASS  
CENTERS

**4**

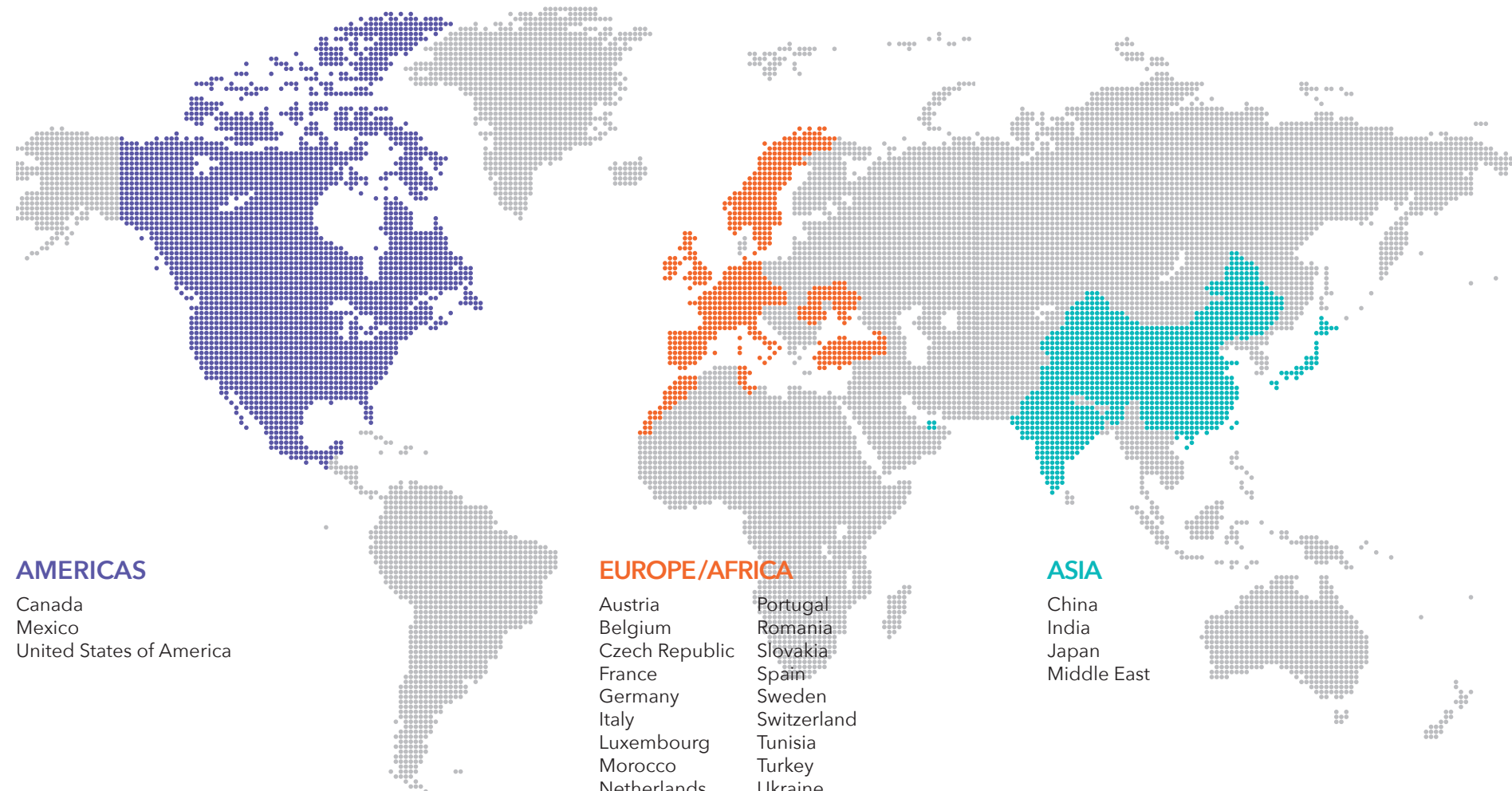
GLOBAL DELIVERY  
CENTERS

**33,665**

NUMBER OF EMPLOYEES  
(December 31, 2017)

**20+**

COUNTRIES OF OPERATION



## AMERICAS

Canada  
Mexico  
United States of America

## EUROPE/AFRICA

Austria	Portugal
Belgium	Romania
Czech Republic	Slovakia
France	Spain
Germany	Sweden
Italy	Switzerland
Luxembourg	Tunisia
Morocco	Turkey
Netherlands	Ukraine
Norway	United Kingdom

## ASIA

China  
India  
Japan  
Middle East



# Soaring progress towards Altran 2020. Ignition

Solid results in 2017 accelerated progress towards the ambitious goals laid out in the company's strategic plan. Altran achieved sustained revenue momentum in key industry sectors, expanded margins and realized step-by-step external growth. As a result, many objectives were achieved two years ahead of plan.



Sustained headway towards 2020 goals in 2017 set the stage for the transformational acquisition of Aricent announced towards year-end and completed in March 2018. Revenue growth greater than 10% vs. 2016 surpassed the target for the year while net income from continued operations increased by 15.3%. The company achieved sustained momentum across all four pillars of its strategic plan: augmented value, Industrialized GlobalShore®, geographical expansion and operational excellence. Revenue increases occurred in three vital sectors - Automotive, Industrials and Telecom, Hi-Tech & Media. In the Aeronautics sector, Altran gained good traction with European OEMs for customer services activities, analytics and IoT projects.

## INDUSTRIALIZED GLOBALSHORE®



Thanks to its large Global Delivery Centers in India, North Africa, Eastern & Southern Europe, Altran leveraged its worldwide resources to provide customers with an industry-leading range of on-shore, near-shore and off-shore options in 2017.

The Altran Industrialized GlobalShore® value proposition proved particularly attractive to automakers seeking to optimize non-core activities. The Global Delivery Center in Morocco, for example, acquired embedded software capabilities to provide complete vehicle capability portfolio, opened a satellite facility in Tunisia, and signed a major full turnkey complete vehicle project with a new OEM client in December. The Altran Global Delivery Center network was also reinforced in Eastern Europe and Portugal in 2017.

## GEOGRAPHICAL EXPANSION



Independently of Aricent, Altran revenue from sources outside Europe grew more than 36% in 2017, with huge improvements in EBIT and margin as a percentage of revenue.

Altran significantly expanded its international presence in 2017, with acquisitions such as Pricol Technologies and GlobalEdge Software in India, Telnet in Tunisia and IRM in the UK.

## AUGMENTED VALUE



The strategic plan calls for Altran to deliver greater value to clients by developing its network of World Class Centers in targeted fields, supporting clients with a dedicated consulting unit, reinforcing its capacity to develop innovative products and creating teams to handle major transformational outsourcing projects.

## OPERATIONAL PERFORMANCE



With growth across all regions, and exceptional revenue growth in France, Altran delivered outstanding performance in 2017. A combination of strong operational performance and cost control drove expansion of the company's EBIT margin.



## Our financial performances in 2017



Revenues:

**€2.3bn**

(+10.0% year-on-year)



EBIT:

**€246.3m**

(+13.6% year-on-year)



Net income from  
continued operations:

**€139.7m**



Year-over-year  
net income:

**+15.3%**

Revenue breakdown  
by sector:

**23%** Aerospace, Defense & Rail

**24%** Energy, Industrials & Life Sciences

**18%** Telecom, Hi-Tech & Media

**12%** Finance & Public Sector

**23%** Automotive

Economic  
growth across  
all geographic  
areas:

**+7.6%**  
France

**+3.0%**  
Northern  
Zone

**+5.8%**  
Americas/  
Asia

**+5.4%**  
Southern  
Zone

# Creating value for our clients

# NATS

## Lighter workloads and more informed decision-making

Altran is supporting NATS, the UK's air navigation service provider, to create a next-generation air traffic management system as part of a European-wide modernization program. Being awarded the contract for defining, developing and deploying the FourSight controller tools represents the latest chapter in a long-running partnership with Altran.

Designed within the context of Europe's Single European Sky (SES) initiative, NATS launched the FourSight project to enable controllers to handle more aircraft at increased levels of safety. Incorporating advanced

conflict detection and "what-if" functions, the tools help reduce controllers' workload and pressure by providing them with data to make informed decisions regarding aircraft separation. Altran will execute NATS' vision by specifying, developing, testing and supporting the new system with contributions from Altran's Intelligent Systems Expertise Centre in the UK, Innovation and Design World Class Center and Global Delivery Center in Portugal. After successful delivery of a number of key milestones in 2017, NATS named Altran as its Collaborative Partner of the Year.



Creating

Yearbook 2017

12 / 13

### OUR TEAMS

77  
engineers

### OUR PARTNERSHIP

10+  
years



INDUSTRY  
Aeronautics

OUR EXPERTISE  
Safety-critical software and systems  
development

Twitter

@NATS 6 Nov 2017

We've partnered with Altran for a next-generation conflict detection tool.  
[nats.aero](https://nats.aero)

Follow @NATS on Twitter

# THALES ALENIA SPACE

Augmented Reality saves time and reduces risk on Earth and in Space

Altran specialists have helped space engineers show how Augmented Reality (AR) and other mobile technologies can improve crew efficiency aboard the International Space Station (ISS) with their participation in the ARAMIS project.

Conceived and developed jointly with Thales Alenia Space Italia, an experimental use of Augmented Reality in outer space yielded promising results. Use of an AR application developed by the Altran and Thales Alenia team demonstrated how advanced mobile technologies can improve the crew's efficiency, accuracy and autonomy during execution of standard tasks, such as nominal maintenance and stowage management activities. Currently, ISS crew members rely on hard copy documents and laptops to refer to the

procedures, notes and logs they need for standard operations. This requires the operator to jump between different information sources and to constantly switch focus between the working area and the laptop screen to read and verify the support information. To address this, the team developed a mobile application that runs on a standard ISS tablet, allowing the astronaut to keep support information at hand and view the working area through the camera of the device. Alerts and operating instructions appear directly on the target, along with identification tags and labels that facilitate material selection and inspection. The Augmented Reality experiment, successfully carried out in November 2017, showed how gathering all the information needed in a single hand-held device saves time and reduces the risk of error.



## OUR PARTNERSHIP

18 years

## INDUSTRY

Space, Defense & Naval

## OUR EXPERTISE

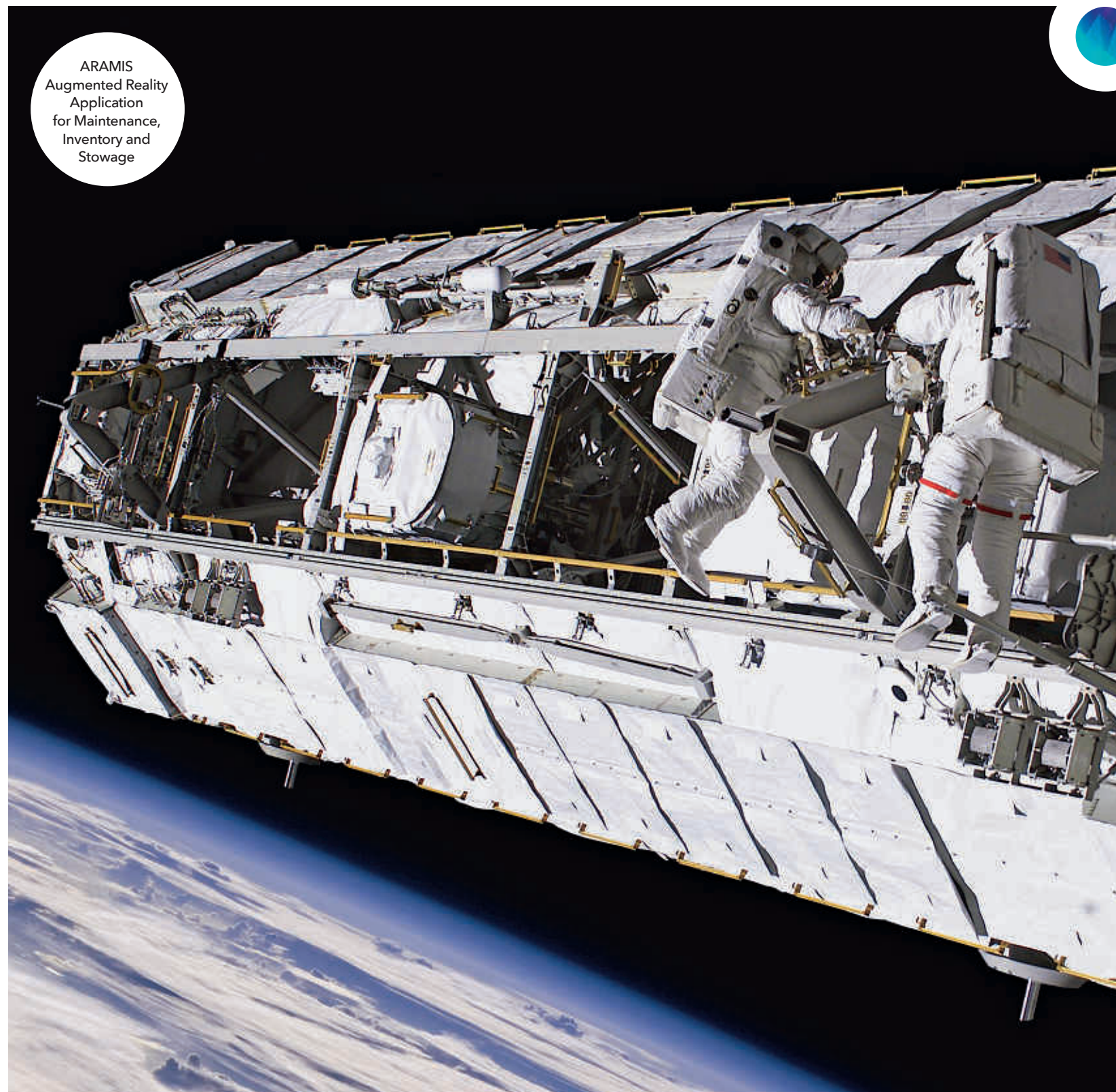
Augmented, mixed and virtual reality and software development for mobile applications



@AltranItalia 17 Nov 2017

Effettuato l'esperimento di [#ARAMIS](#) ([#AugmentedReality](#) Application for Maintenance, Inventory and Stowage) a bordo della #ISS.

ARAMIS  
Augmented Reality  
Application  
for Maintenance,  
Inventory and  
Stowage



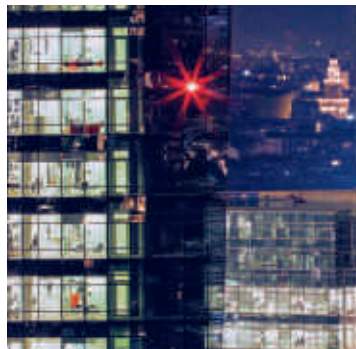
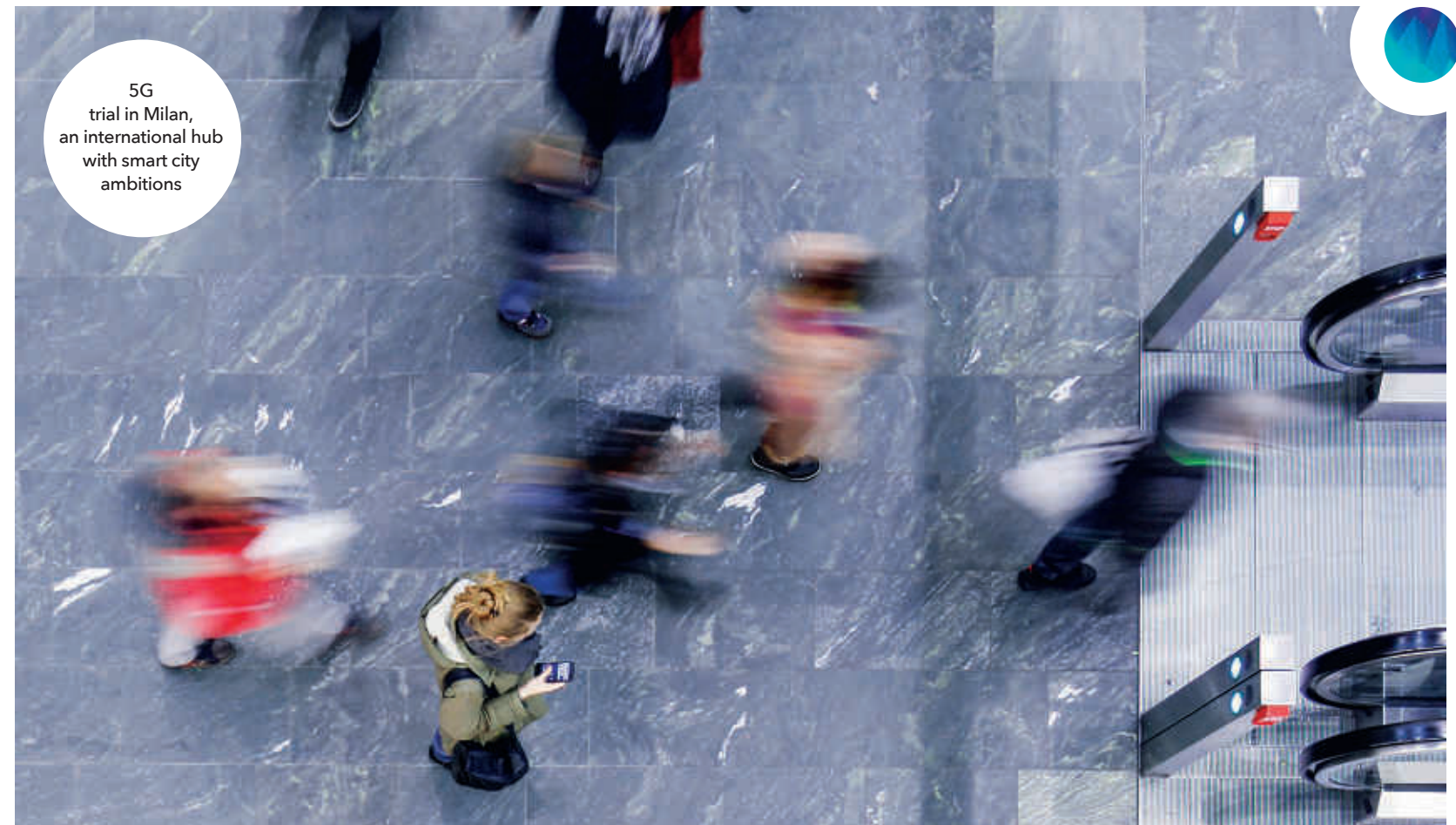
# VODAFONE

## Real-life services and applications for a smart city

Through an ambitious smart city project, Vodafone Italia and Altran are working together to transform Milan into the capital of 5G wireless in Europe.

Altran is among those to have received an appointment to develop and test applications and services for the Vodafone 5G trial in Milan that exploit the potential of next-generation 5G technology. Vodafone selected Altran as a partner for its strong know-how in system integration

and software development, its drive towards innovation, its huge experience in such industries as automotive and entertainment, and its long track record for successful project implementations. The goal is to demonstrate concretely how ubiquitous ultra fast 5G connectivity can enhance healthcare, traffic, tourism and emergency services in Milan, an international hub with smart city ambitions.



### 3 questions to Sabrina Baggioni, Vodafone 5G Program Lead

#### Why has this smart city project been introduced?

In September 2017, Vodafone was awarded by the Italian Ministry of Economic Development the exclusive license to run a trial in the city of Milan for the new 5G technology. The trial includes developing the city 41 new services and applications that could not exist if we did not have 5G or could be strongly enhanced by 5G technology.

#### Why did you choose Altran to support you in the 5G trial to build the city of Milan?

We chose Altran for three main reasons: firstly because they have a strong know-how and capability in system integration, software development and platform development; secondly, because of Altran's drive towards innovation; and thirdly, the years of experience that Altran has in specific industries such as automotive and entertainment.

#### What are the next steps of this project?

The first and most important step is to execute, go live, and make it happen. That is why we are extremely happy to have Altran on board this trial. We can really use their soft skills and hard skills and capabilities to put every piece together and deliver not only the power of 5G but also the potential application of what we will be building for the community and will transform Milan into the capital of 5G.



INDUSTRY  
Communications

OUR EXPERTISE  
Cross-industry knowledge, advanced networks, systems integration and software development

# 2GETTHERE

## Third-generation autonomous vehicle

With expertise in autonomous driving and e-mobility as well as design, prototyping and testing of driverless vehicles, Altran was a natural partner for 2getthere's third-generation autonomous vehicle.

Altran engineers are working alongside experts from 2getthere, a leading developer of mobility solutions, to design, produce and deliver driverless electric vehicles for the Bluewaters waterfront project in Dubai. Capable of transporting 5,000 people per hour, the system will feature 25 vehicles to link the offshore Bluewaters site to an existing metro station 2.5 km (1.5 mi.) away. The driverless vehicles, each with a capacity of 24 passengers, were fully engineered and produced by Altran.



OUR PARTNERSHIP

9 years

INDUSTRY  
Transportation

OUR EXPERTISE  
Product and systems engineering



## ABB (PLUNGER ANALYSIS SOFTWARE)

### Intuitive UX enhances system performance

Aricent reimagines ABB's Plunger Analysis Software with significantly improved user experience, allowing customers to more easily optimize the performance of plunger-based artificial lift systems in natural gas production wells.

The global energy leader turned to Aricent to reimagine its legacy Plunger Analysis Software (PAS),

to be more productive and intuitive for their end-users. Aricent's updates included new algorithms for performance optimization, adding features like fault detection and operator training and a completely redesigned user interface (UI). The new responsive UI employs a human-centered approach, utilizing color, typography and enhanced button design to make the information easier to scan,

allowing operators to quickly identify system faults in their gas wells. Together, the updated features and improved UI helps ABB customers analyze well production and compare historical data for enhanced system performance in a single view.

OUR PARTNERSHIP

2.5 years

INDUSTRY  
Energy

OUR EXPERTISE  
Software development, UI design, automation testing



# TELEFÓNICA

## Sweeping transformation in the cloud

Spain's telecommunications giant Telefónica collaborated with Altran to design and implement its ambitious UNICA network cloud and network virtualization program.

UNICA is Telefónica's large-scale program to virtualize its network end-to-end, from access to backbone. A fully virtualized, programmable network will enable the company to easily and efficiently align capacity with demand, reduce network complexity and deliver new services to

customers more quickly. Altran has been appointed to help bring this sweeping change in Telefónica's operational Telco Cloud model to life, designing and implementing global, end-to-end infrastructure virtualization processes. Introducing cloud technology means a complete transformation of the operational model of Telefónica, the design and deployment of its software infrastructure as well as the exploitation of platforms.

Telefónica  
operates in more  
than 20 countries



Creating

### OUR TEAMS

**200**  
engineers

### OUR PARTNERSHIP

**25** years



### INDUSTRY Communications

#### OUR EXPERTISE

In the Telecom sector - engineering, design, testing and validation in the network space

#### Twitter

@altran\_es 12 Apr 2017

Altran helps Telefónica to design and implement its ambitious UNICA network cloud and network virtualization program.  
<http://ow.ly/tb8030aMSNi>

# PORSCHE

## Scaled development

Because Porsche wanted lasting value from its app development investment, the automaker partnered with frog design for development tools and methodology that would yield ongoing benefits.

The partnership resulted not only in the launch of two new apps but also provided Porsche with a design language, code library and user-centered methodology to leverage the investment over

time. As part of the redefinition of Porsche's design principles and interaction model, frog provided a design language system and user-interface toolkit, enabling the automaker to scale development of mobile apps and accelerate time to market. The partnership enabled Porsche to launch the first of two new apps only nine months after implementation of the new tools and methodology.



INDUSTRY  
Automotive

OUR EXPERTISE  
Digital Transformation

DESIGNED BY  
**frog**

246,375 cars  
sold in 2017



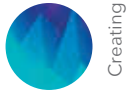
Creating

Yearbook 2017

On the verge of the 5G wireless revolution, Nokia and Altran are pooling their expertise to deliver a joint solution that will enable customers in numerous sectors to fully digitalize their operations.

The joint solution brings together Nokia's broad skills in connectivity and IoT (Internet of Things) platforms with Altran's expertise in IoT systems, data

collection and management, and integration. The result will be a joint solution to help auto manufacturers, rail operators, utilities and smart cities to meet the challenges of the 5G wireless revolution. With development of connected and autonomous vehicles accelerating, the solution will provide the connectivity required to deliver innovative value-added services for users.



### 3 questions to Chris Johnson,

Vice President Global Enterprise Vertical Markets

### Thierry Boisson,

Vice President Strategy & Portfolio Nokia Services

#### What is Nokia's history with the Altran Group?

We have been working with Altran for many years, collaborating on many different projects within a number of countries. Altran provides solution engineering services to many of our business groups and is becoming a strong strategic partner.

#### Why was this latest IoT partnership initiated?

At Nokia we see 5G as the next big industrial revolution, and IoT is a key element of this transformation. Altran is a perfect fit for Nokia as we diversify our business in connected transport with automotive manufacturers and railway operators. In a broad sense, digitization is a key focus for our customers – this partnership brings together a range of technologies that form solutions to help them navigate that change.

#### What is Altran's role in the partnership, and what value do they bring to the table?

Altran is one of our key strategic partners in the IoT domain, acting as an overall integrator – an innovator utilizing our technologies to develop and deploy solutions for customers. By leveraging Altran's engineering and industry knowledge we are able to strengthen our ability to address the significant opportunity offered by the booming IoT market, creating stronger value propositions and greater business value.

#### OUR PARTNERSHIP

15 years

#### INDUSTRY Cross-Industry

#### OUR EXPERTISE

Advanced networks, 5G and IoT knowledge, systems integration and industry expertise.

#### Twitter

@Nokia 27 Oct 2017

Proud to partner with @altran at #NokiaConverge to deliver innovative #IoT solutions for auto & railway sectors. <http://nokia.ly/2zlJw5D>



# TRAVELEX

## Actionable business intelligence

Travelex turned to Altran's Cybersecurity Expertise Center when it needed a consistent, global solution.

With retail operations in 30 countries, the world's leading foreign exchange specialist processes and delivers foreign currency orders for major banks, as well as for travel agencies, hotels and casinos. To reduce internal and commercial risk across its widespread operations, Travelex selected IRM's SYNERGi

platform for risk management. Delivered as a service (Software as a Service), SYNERGi developed the ability for Travelex management to visualize operational exposures consistently. Thanks to SYNERGi, Travelex management have gained confidence in their operational risk data and can translate this into accurate business intelligence reporting.

Retail operations  
in 30 countries



Creating

### OUR PARTNERSHIP

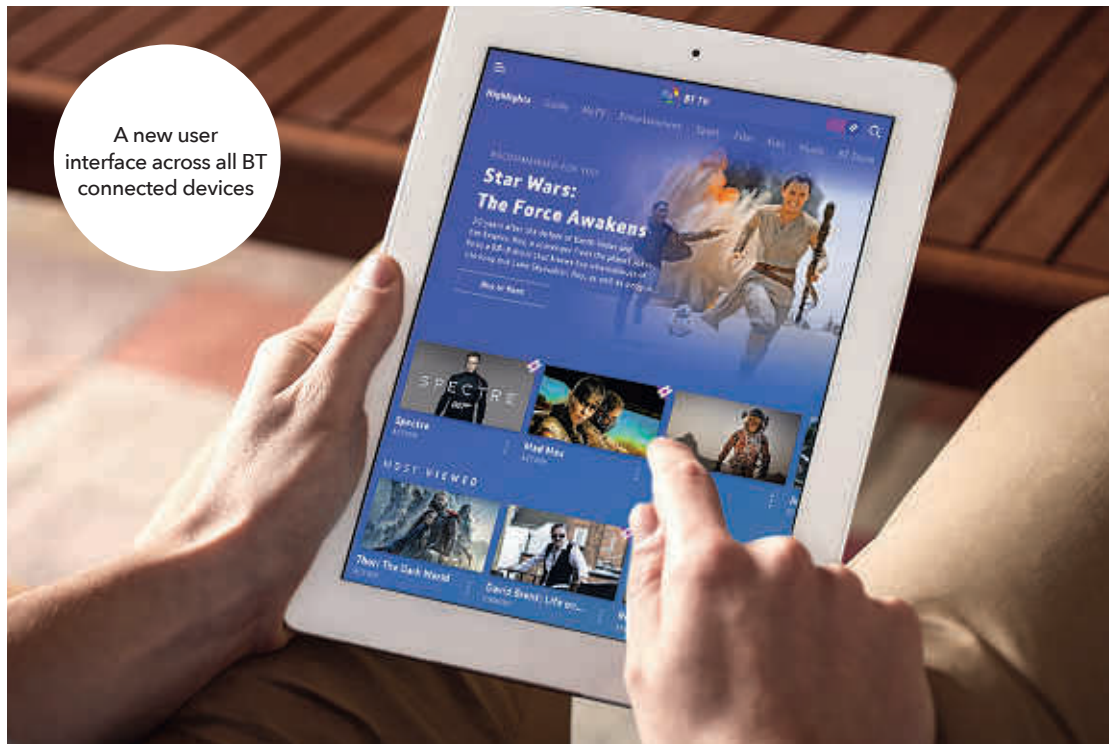
6 years



INDUSTRY  
Financial Services

OUR EXPERTISE  
Cybersecurity, anti-money laundering,  
regulatory compliance, audit,  
governance, risk and compliance

# Outpacing Competition



28 / 29

## BT TV

### Customer-centric design

BT worked with frog to transform its customer experience by completely redesigning the BT TV ecosystem of products, which resulted in higher customer satisfaction ratings and numerous industry awards.

In the UK's competitive pay-TV segment, BT already had engaging programming - the challenge was to make the BT TV user experience just as engaging. frog came up with a fresh and inclusive redesign that appealed across BT TV's subscriber base.

The new user interface reaches across all BT connected devices to create a cohesive viewing experience from TV to tablet. Customer satisfaction jumped dramatically thanks to a new, customer-centric design that helped make video-on-demand services as easy to use as traditional TV.



**INDUSTRY**  
Communications

**OUR EXPERTISE**  
Customer experience design

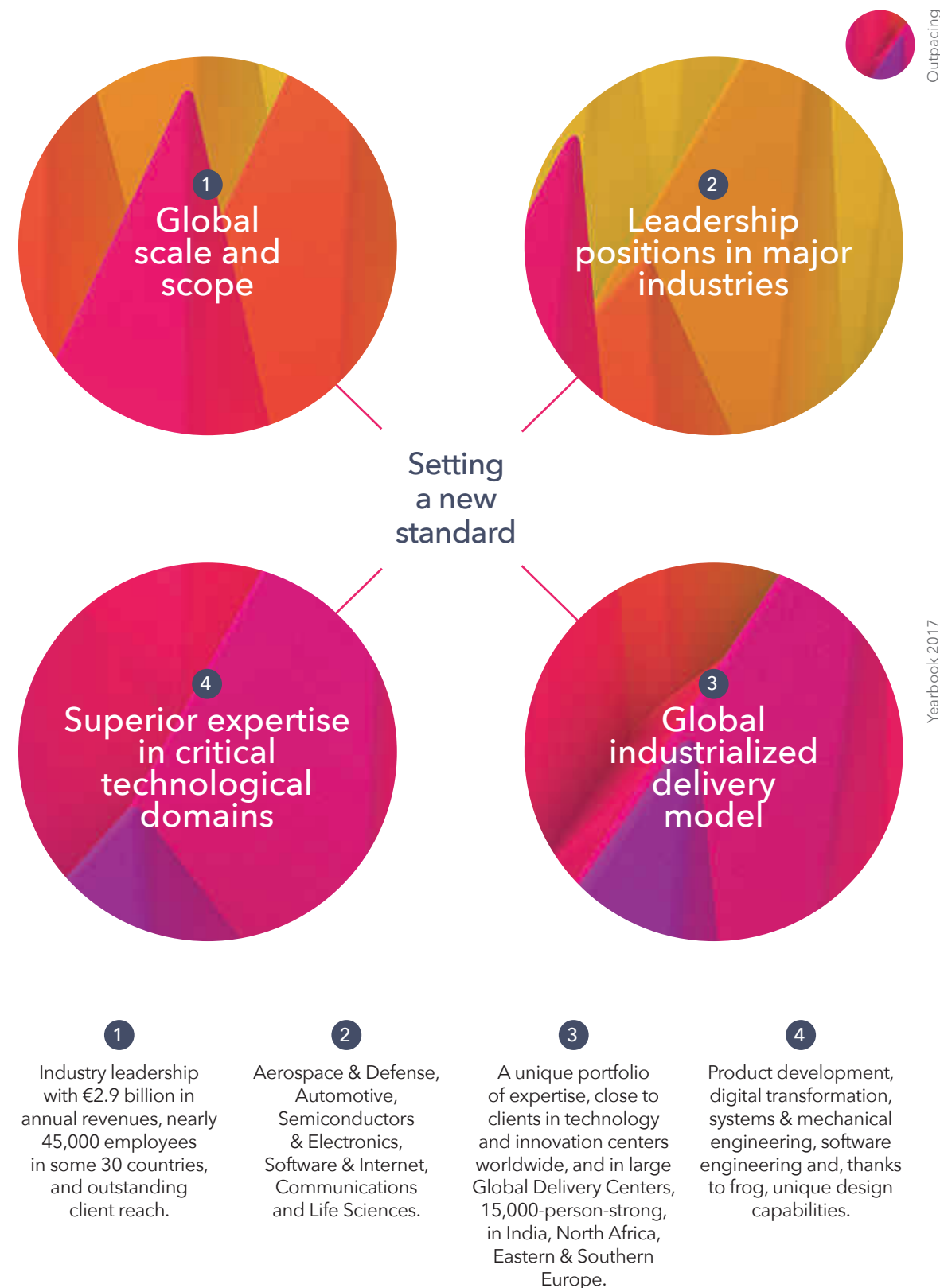
**DESIGNED BY**  
**frog**



# Undisputed global leader

Focused ever more on their core skills, and hungry for new solutions to enhance disruptive technologies, the rapidly changing client reality offers unprecedented growth opportunities for their ER&D partners, provided they can deliver. **Altran stands ready to meet this challenge.**

Following its acquisition of Aricent in March 2018, Altran stands clearly at the forefront of this challenge, poised to sustainably set a new global standard for ER&D services. No other player can match the combined depth and range of services of Altran and Aricent.



# A world of possibilities

Global companies require global partners as they rethink and reconfigure their global R&D programs. With nearly 45,000 experts spread throughout Europe, North America and Asia, Altran offers the industry's widest range of Engineering and R&D services.



## Unmatched scale and scope

With some 30,000 experts spread across more than 20 countries prior to the Aricent acquisition, Altran has been building its global delivery model over the past several years. Seven World Class Centers enable customers everywhere to tap into the world's foremost expertise in such areas as Advanced Networks, Advanced Manufacturing and Innovation & Design. Global Delivery Centers located in cost-efficient geographies combine performance with speed, efficiency and quality.

In 2018, the acquisition of Aricent, a global digital leader in integrated design and engineering services, headquartered in Santa Clara propels Altran into an unmatched global scale and scope. Aricent's world-class capabilities include 24 engineering centers and design studios worldwide. Its 11,250-strong workforce includes 9,200 engineers and 400 designers.

## Common culture

With nearly 70% of its revenues from North America, Aricent is strongly rooted in dynamic markets: a powerful

complement to Altran's strong European and Asian market positions. The combination of Altran and Aricent constitutes an unprecedented, truly global ER&D provider, with India as its largest single country in terms of employees and the US as its second-largest source of revenue. Everyone within the new organization shares a common understanding of market dynamics and similar business culture. Together, all are ideally positioned to seize the unprecedented growth opportunities of the new industrial revolution.

## Advancing the human experience

frog is a global product strategy and design firm that identifies business opportunities, creates great products, and designs meaningful experiences to grow brands and delight customers. frog is more than 600 strategists, researchers, designers, and technologists who consult and partner with clients across industries. Headquartered in San Francisco, the design firm has offices in Amsterdam, Austin, Boston, Milan, Munich, New York, Seattle, Shanghai and Singapore. A Global Growth Company member of the World Economic Forum, frog is part of Altran.

**frog**

# Understanding **your** business challenges

From the stringent quality needs of automakers to the merciless time-to-market imperatives of consumer electronics, to the ironclad reliability requirements of defense contractors, every industry faces its unique set of competitive challenges. As a long-term partner to its clients, Altran brings specialized industry expertise to each innovation project. In fact, Altran is the world's leading supplier in ER&D services to such vital sectors as Aerospace, Defense, Automotive, Semiconductors & Electronics, Software & Internet, Communications and Life Sciences.



## Automotive

Altran serves automotive clients ranging from Volkswagen and PSA Group to Toyota and Jaguar Land Rover with a full range of services. Altran teams offer distinctive expertise in autonomous driving and connectivity, powertrain and electro mobility as well as complete vehicle development. With unmatched understanding of auto industry technology, business and regulatory challenges, Altran counts more than 7,800 automotive specialists spread across 20 countries.



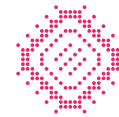
## Aerospace, Defense

Thanks to its broad expertise in such areas as security and industrial modernization, Altran has built its Aerospace & Defense activities into one of its largest revenue source (after Communications). Leading clients include such names as Airbus, Bombardier, Dassault Aviation, and NATS. Clients depend on Altran to develop and produce advanced aircraft, reduce lead times, accelerate downsizing, handle disruptive services and connectivity, and ensure/enhance security.



## Communications

Greatly reinforced through the acquisition of Aricent in early 2018, the Communications sector represents the largest source of Altran revenues. Many of the world's leading suppliers of both equipment and services rely on Altran, such as Vodafone and Nokia. Altran specialists help Communications clients introduce telecom services & networks, online over-the-top (OTT) and Internet services, IoT and analytic services.



## Semiconductors & Electronics

Long established as a leading supplier of ER&D services to industrial clients, Altran assumed the leadership position within the Semiconductors & Electronics sector with its acquisition of Aricent. The combined teams deliver specialized expertise in such areas as semiconductors, electronics and consumer goods. As the leading supplier, Altran customers in this sector now include such companies as Whirlpool, Samsung, and Schneider Electric.

### Leadership in Semiconductors

Aricent is an engineering services partner to 17 of the world's top 20 chip makers, ranked #1 in Semiconductors for two years in a row by Zinnov (2016, 2017) and home to the world's largest VLSI engineering services team. Aricent helps semiconductor companies achieve the highest ROI on their R&D spend by maximizing the productivity and innovation capacity of in-house R&D teams, reducing engineering costs and improving time-to-market.



## Life Sciences

The members of the Altran life sciences team, which counts some 2,500 dedicated specialists, enable life sciences companies to master an ever-changing range of challenges, from cost and price pressures to technological breakthroughs to regulatory requirements. In response, Altran offers particular expertise in innovative patient-centric medical device development, life sciences digitization, industrial performance and regulatory compliance. Many of the world's leading innovators in the field, including Biovation, Johnson & Johnson, GSK, and Sanofi, rely on Altran for ER&D services.



## Software & Internet

Many of the world's leading Internet and software companies, including Microsoft, Oracle, IBM or CA Technologies work with Altran. Thanks to extensive experience and a long track record for success, Altran and Aricent teams provide industry-leading support for software product development, software frameworks and solutions. In fact, thanks to Aricent, Altran now offers more than 100 software building blocks to accelerate time to market in applications from connectivity and networking to cloud, security, DevOps, automotive, testing and more.

### Partnership produces open platform

Altran and Jaguar Land Rover put their collective heads together to come up with a software platform for intelligent vehicles. The idea is to reduce the number and complexity of onboard computers while introducing new features such as Advanced Driver Assistance and automated driving. Over time, Altran will be in a position to extend the technology into other sectors, such as medical, rail, industrial automation, and aerospace.

# Expertise & IP

## Where it counts the most

As innovative organizations seek to maximize their engineering and R&D investments, they increasingly turn to partners for support in non-core ER&D programs. To serve this growing need, Altran has developed superior expertise in such critical technologies as artificial intelligence, cybersecurity and data science. Cross-disciplinary expertise enables Altran teams to support and supply such challenging business functions as product development, digital transformation, systems and mechanical engineering, and software engineering.

### Superior expertise, IP and assets for advanced technologies

Altran's seven World Class Centers enable clients to jump-start development programs by using subsystems, tools and other assets that already exist. Each one brings together a raft of differentiating assets and a team of top-level experts and solution managers.

### World Class Center for Innovation & Design

Founded on a culture of applied innovation, the Altran Innovation & Design World Class Center team includes industrial designers, researchers, human factor experts, system engineers, artists, physicists, psychologists, business analysts and coaches.

Team members have the capability to analyze data and trends, generate content and solutions, develop concepts into viable business models and transform processes and organizations.

### World Class Center for Analytics

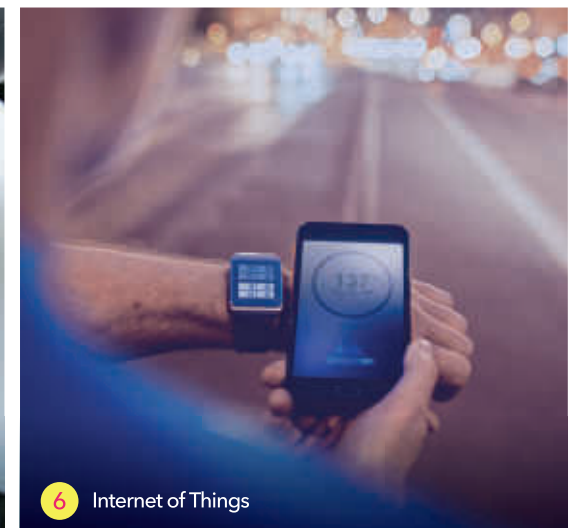
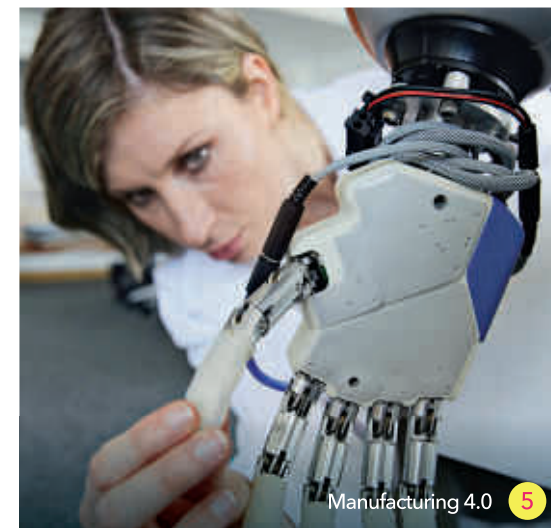
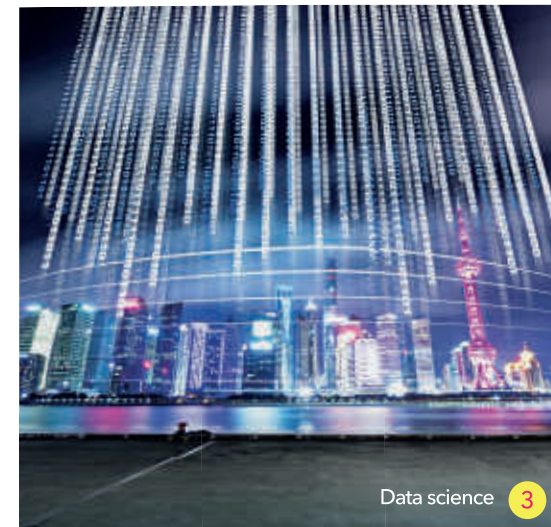
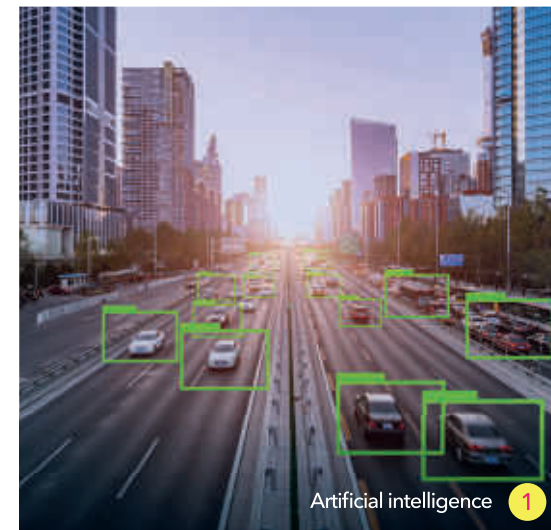
The 250 experts at the Altran World Class Center for Analytics use data science to accelerate evidence-based decision-making, enabling businesses to improve profitability, reduce costs, streamline operations, avoid errors and out-innovate the competition. With more than thirty years' experience, they have delivered thousands of analytics projects, always focusing first on business impact

### World Class Center for IoT Solutions

The Altran World Class Center for IoT Solutions helps clients create new value by connecting machines, objects, people and the environment. The staff develops, integrates and operates end-to-end IoT solutions, including connectivity, platforms and applications. With both off-the-shelf and customization options, clients benefit from Altran partnerships with leading IoT solution providers.

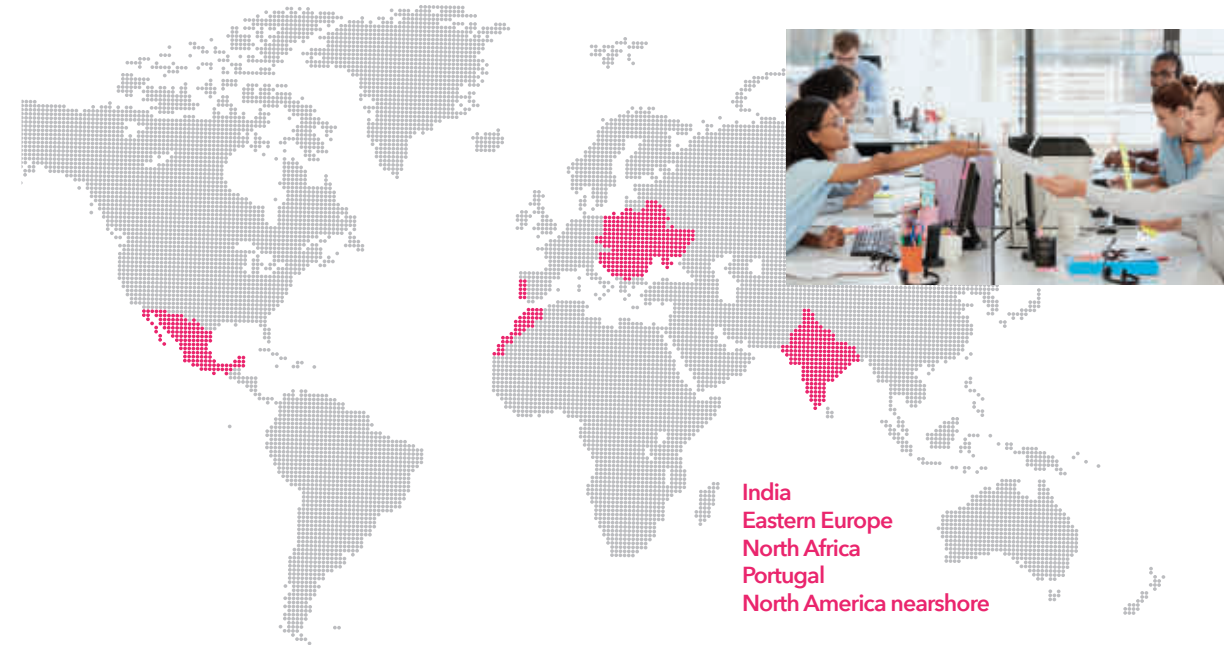
### World Class Center for Advanced Manufacturing

Leading manufacturers turn to the Altran Advanced Manufacturing World Class Center for quantified



# Industrialized delivery on a **global scale**

To bring products and services to a global market faster, large organizations are increasingly refocusing on their core strengths. This race against the competition is opening more doors for innovation partners to take over a broader range of engineering and R&D services. To support this increased demand, Altran has built the world's first Industrialized GlobalShore® end-to-end delivery solution.



In addition to offering seamless, end-to-end industrialized delivery, Altran carefully balances speed of execution with agility. The model is designed to provide the full benefits of scale, broader industry range and cutting-edge expertise. It uses the best talents and domain experts from across the globe to help clients disruptively revisit and optimize their business possibilities. By combining a unique blend of globalshore and industrialization with a vast portfolio of expertise, Altran offers a customized location

mix. Client proximity is both local and global. Local presence is assured by local technology and innovation centers and global presence via the Global Delivery Centers. With a Global Delivery Center workforce of more than 16,000 engineers across four continents (India, Africa, the Americas and Europe), Altran provides quick-turn scale, scope and premium quality to enable clients to meet the challenges of competitive differentiation. Altran's track record for efficient, on-time delivery

facilitated by process improvements and/or automation offers clients long-term sustainable advantage. Via, Industrialized GlobalShore® clients further enjoy operational cost savings, more complex total cost of ownership gains and disruptive technologies to stay one step ahead. With the March 2018 acquisition of Aricent, Altran now boasts the industry's broadest, most cost-effective portfolio of global Engineering and R&D services becoming the new undisputed global leader.

improvement in manufacturing performance. Clients benefit from a single team with operational experience in their particular industry, expertise in innovation methodology, deep knowledge of emerging technologies and direct access to practices in other industries.

## World Class Center for Advanced Networks

Clients turn to the Altran World Class Center for Advanced Networks to meet the challenges of network complexity and the multiple technologies needed for high speed broadband as well as operational and cost optimization and the transition to 5G. Expertise in virtualization and software-design networking enable smooth network transformations. Engineering

and system integration services support consolidation and modernization throughout the network life cycle for mobile access, mobile core and NGN.

## World Class Center for Passive Safety

As automakers adopt lighter structures and new materials, the Altran Passive Safety World Class Center provides unique expertise in virtual simulation, physical testing and testing tools along with in-depth engineering know-how. The results are reliable virtual simulation results and strong engineering recommendations for vehicle safety, along with a full range of passive safety test facilities. The Center counts more than 120 dedicated passive safety experts, who serve clients in more than 20 countries.

## World Class Center for Life Sciences Process Excellence

The Altran Life Sciences Process Excellence World Class Center uses innovative methods and metrics to enable clients to deal with scientific and technological advances, new business models and evolving regulations. With a global network of 2,500 specialized consultants, the World Class Center has proven expertise in guaranteeing compliance with health authority regulations. It offers a results-oriented approach from audit and diagnosis to implementation for R&D, manufacturing, quality, regulatory and distribution applying change management methods that deliver sustainable benefits.

## Digital design integrated engineering

Aricent's digital design services align design and engineering for clients' design led-engineering and design-integrated engineering opportunities. The idea is to accelerate speed to market by avoiding rework, design products that meet real human needs rather than just functional requirements and to increase the client's ability to produce premium products and services. Digital design services reduce development costs and enhance the client's ability to design products and services that consumers want before they can even articulate why.

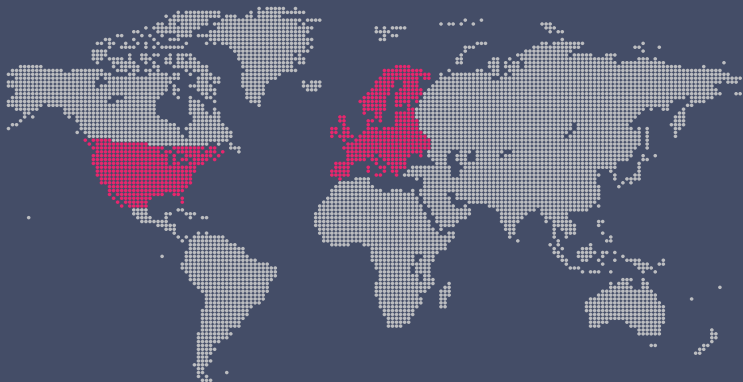


45,000  
employees

€2.9bn  
revenues

15,000+  
engineers & technicians  
based near and offshore  
(35% of total workforce)

#1 Worldwide, #1 in Europe/the US\*



\*Excluding Financial Services

Worldwide leadership  
across industries

#1



Aerospace,  
Defense



Semiconductors  
& Electronics



Communications

Top 5



Automotive



Life Sciences

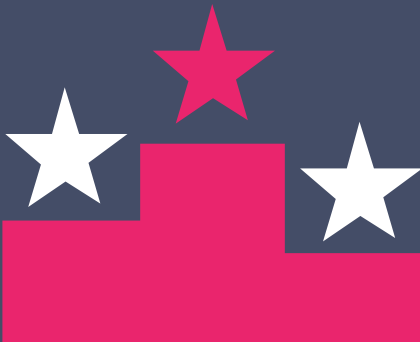


Software  
& Internet

5 Global Delivery  
Centers

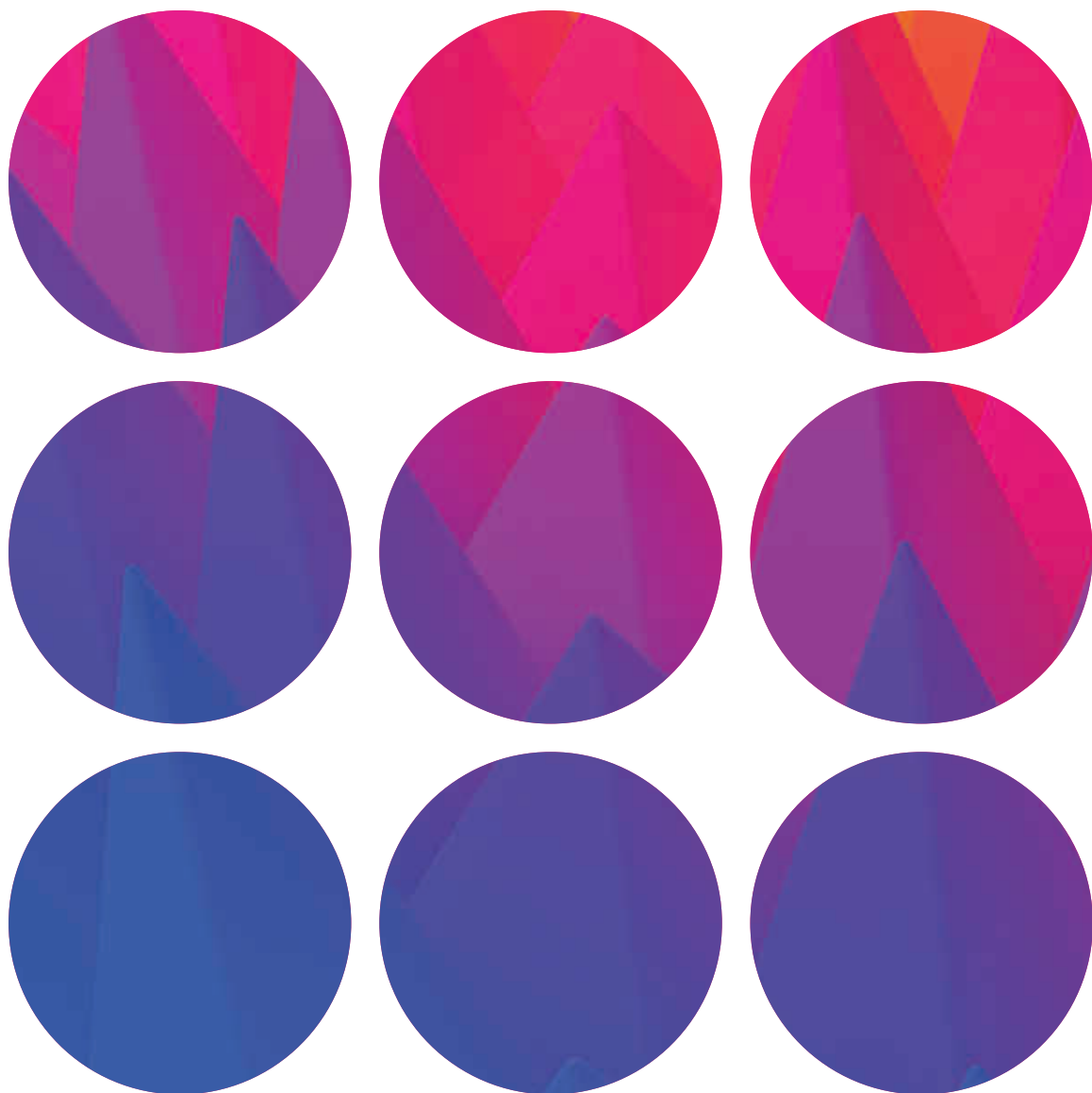
India  
Eastern Europe  
North Africa  
Portugal  
North America nearshore

Premier ER&D global delivery



Superior expertise in key  
technology domains

Design  
Product development  
Mechanical engineering  
System engineering  
Digital and software development



ALTRAN TECHNOLOGIES  
Public limited liability company  
with a share capital of 128,510,552.50 euros  
Head office  
96, avenue Charles de Gaulle 92200 Neuilly-sur-Seine  
702 012 956 RCS Nanterre  
[www.altran.com](http://www.altran.com)

**alTran**