orange™ Business Services

Co-innovating for better digital business success

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What is co-innovation?

Why is co-innovation essential for success in the digital era?

In years gone by, companies closely guarded their ideas, innovations and intellectual property, keeping new concepts away from curious third parties. You developed your ideas in isolation, built a prototype and then took it to market.

Smart companies have realized they can no longer innovate in a vacuum. The cross-pollination of ideas with organizations from other backgrounds, industries and stages of maturity – in addition to input from the end-customer or end-user – is essential. It brings in new thinking, knowledge and skills that can lead to genuinely disruptive ideas that an enterprise can turn into real world innovations.

The key to success lies in all the data that you already hold and can access from your ecosystem and public sources. It enables you to uncover insights into how customers make particular purchasing decisions or why a business process is taking longer than expected.

The advantage of a co-innovation program with partners, suppliers and customers is that it gives you access to more data than ever before.

At the same time, it's important to have a structured approach to innovation – which is the topic of this ebook. Research by Accenture shows companies with extensive innovation governance achieve twice the revenue growth of those that don't.

With an effective digital innovation process that directs your innovation efforts strategically, it's possible to turn your investments into profitable growth.

Orange Business Services is a network-native, digital services company. We connect, protect and innovate for sustainable business growth.

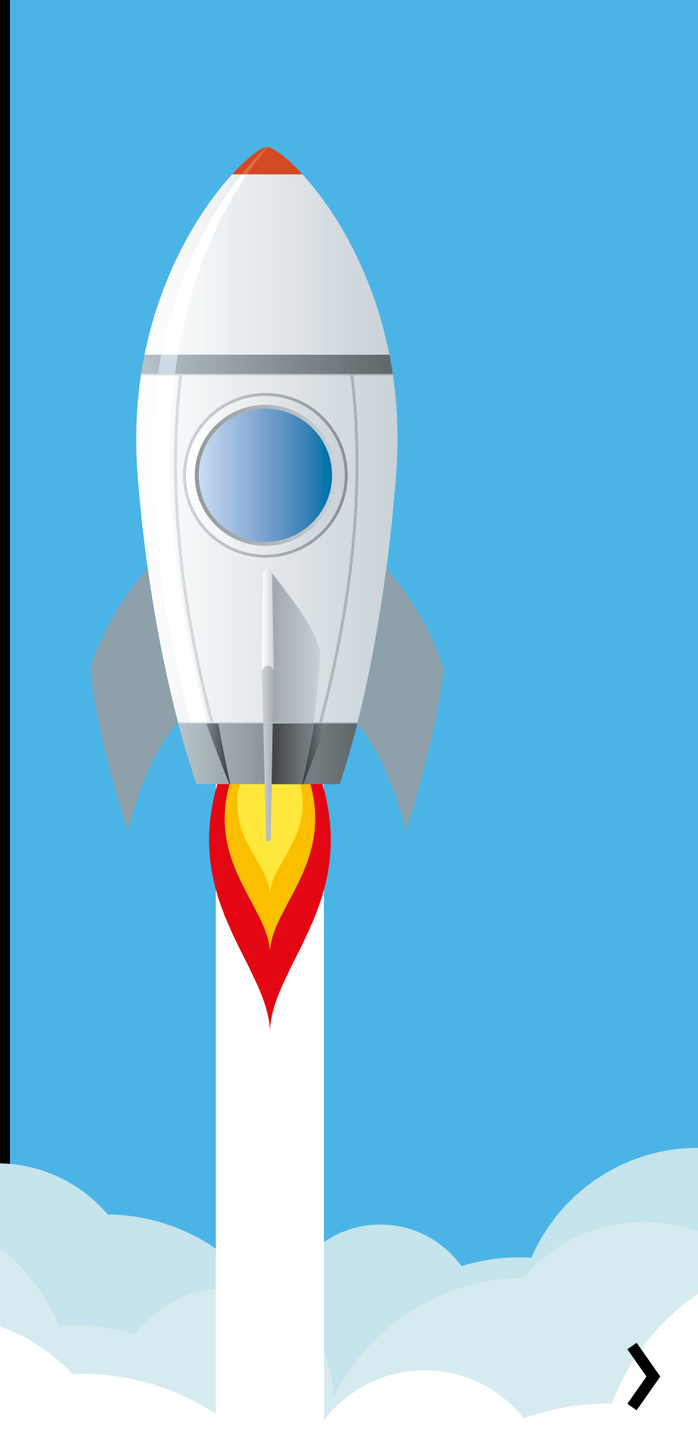
Our structured approach to innovation helps companies digitally innovate around the world. For example, we've worked with a global pharmaceutical firm to pilot the use of computer vision and data analytics to automate the previously manual process of visually inspecting vaccine samples for signs of bacterial growth that suggest problems with the production process. This goal is to improve the speed and reliability of the quality control and assurance processes on the manufacturing line using artificial intelligence (AI) and machine learning (ML).

We've also helped a leading, global automotive manufacturer create a data lake solution to manage the massive volumes of data required to make its vehicles electric and driverless in the future. Blending the digital and physical worlds, a world-famous beer manufacturer is co-innovating with Orange Business Services and a start-up to develop IoT-enabled predictive maintenance for optimized beer production. By changing the filters that remove particles from the beer at precisely the right time, they can minimize downtime at the factory and maximize outputs and quality levels.

These advances wouldn't happen without the right co-innovation ecosystem and governance framework as we'll outline in our report.

Companies thrive on innovation. We work to shape yours.

Raluca Cousson-Postoarca, Head of Innovation, Orange Business Services @CoussonRaluca



What is innovation?

At Orange, we define innovation as the process of creating value for consumers, businesses or society as a whole by applying fresh solutions to meaningful problems. This can include creating new products, services or business models.

Innovation is about more than having an idea or coming up with a concept. It also requires you to follow through and execute the idea, by scaling it in the real world and ensuring it works reliably over time to deliver benefits that people can enjoy.

This is why Orange Business Services works hard to provide the right connectivity and cyberdefense solutions to provide the necessary levels of digital performance and reliability in this type of project. We can also support every aspect of the value chain required for effective data management.

What is co-innovation?

Co-innovation ecosystems incentivize external resources to focus on your goal or mission. Technology has become so specialized that nobody can afford to do everything at the highest level, and you have to partner with specialists to achieve results.

Businesses are increasingly looking to suppliers, vendors, end-users, consumers, partner organizations, university labs and independent inventors for new ideas and insights.

The general trend is for the sharing of risk and rewards by all parties in a tightly-defined contractual arrangement that covers topics such as IP (Intellectual Property) rights. Orange Business Services, for example, has a co-innovation board and investment fund to assess opportunities to co-innovate with its customers in areas where our capabilities and aspirations overlap.

> **“Co-innovation is coupled open innovation that involves two or more partners using joint invention and commercialization processes to manage their mutual knowledge flows.”**
>
> **Henry Chesbrough, professor at Harvard University’s Entrepreneurial Management Unit and Berkeley’s Haas School of Business**

Creating a balanced co-innovation portfolio

It's important to have a portfolio of innovations that will have an impact over three different time frames or horizons.

Not everything has to be a breakthrough idea. It's perfectly acceptable to have a balanced pipeline of big and small ideas if that suits your needs. According to the Benchmarking Innovation Impact 2020 report by KPMG, companies spend 48% of their efforts on incremental innovation, and 26% each on adjacent innovation and transformational innovation.

If you focus exclusively on exciting, transformative H3 innovations, you'll lose business to current competitors who are using incremental innovations to improve their operations today. Consequently, you might have the best ideas for the future, but may no longer be around to execute them if you do not work at remaining competitive today.

Customer-centricity and sustainability are crucial

Traditional customer values of price, quality, speed, and customization are still essential in today's world. However, people want more. They want a better overall experience.

Consumers want you to engage with them on their terms, via their preferred online, mobile and in-store communication channels, and to respect their data privacy preferences. They to also desire emotional fulfilment from the products and services they buy.

Consumers ideally want to buy from companies that do good for the planet – and no harm at the very minimum. This has given rise to the focus on the four Ps of value creation – profit, people, planet and purpose. A purpose-led business is better able to help attract a motivated, skilled workforce that drives financial success. Ideas that add value can come from right across your value chain. For example, more sustainable product packaging or raw materials that are better for the planet can help drive customer-centricity and product differentiation.

Research has shown that customer-centric companies are 60% more profitable than their competitors. Innovation drives customer-centricity, which in turn drives profitability.

How can data insights help?

Digital disruption is something faced by every company in every industry. Digital empowers new competitors to do things better, faster and cheaper.

Enterprises need to be on the lookout for new ways to create new value for their customers through mobile, online and social channels and to capture new value for their business with better digitized operational processes that result in higher margins. They need to be agile, because changing market conditions mean that you're almost always trying to hit a moving target.

How can you make better use of data to drive innovation?

Insights for new innovations can often be found in data. This necessitates a smarter approach to data management. It's important to ensure you have the right data governance processes and infrastructure in place to address many different data privacy, ethics and security concerns.

A new approach to how enterprises index and search data is required with more advanced data management and integration software as part of a data lake strategy. This enables users to manage and query data in multiple underlying cloud platforms.

Machine Learning (ML) can help enterprises overcome the major challenges of analyzing data at scale, but it's important to take proactive steps to avoid any potential biases in the AI algorithms or the training data itself.

On top of this, you need a robust protective, detective and defensive approach to cybersecurity to protect data in multi-cloud environments, edge computing and end-devices and your data lakes.

Digitizing customer experiences and business processes

Science is all about making careful observations and trying to explain what you see.

We like to explain this by imagining a scenario where you might go to a fortune teller: the fortune teller says, “I can see this happening in your future.” A data scientist will tell a domain expert within an enterprise, “The data is telling me X and Y. Does this resonate with you? What could be the driver behind this?” Cross-indexing different data sets can result in surprising new insights. Investing in data skills for the future is also vital. This is why Orange and its data science and analytics subsidiary, Business & Decision, launched the “Ecole de la Data” in France several years ago.

The need for data-driven innovation

What co-innovation programs do we run?

How do we approach co-innovation programs?

The customer experience (CX) and user experience (UX) is the starting point for most co-innovation programs. By genuinely listening and being open to what your customer is saying – including if it is not what was expected or planned – you have the best chance of success.

Technology for technology's sake does not solve consumers' real-world problems. We work to understand implicit and unspoken customer needs and prioritize the most urgent ones. This is often done through customer journey mapping.

Ideation and creating a Minimum Viable Product (MVP) are critical junctures in the process. Agile working methods are vital. This involves getting cross-functional teams working together to develop MVPs interactively in short, quick "sprints".

Testing also plays a key role. If you're designing a solution for the real world, test it in real world conditions. For example, we use Orange Gardens to simulate traffic on global network and see if the solution performs as expected in a sandbox before deploying it to customers. It helps you iron out any issues.

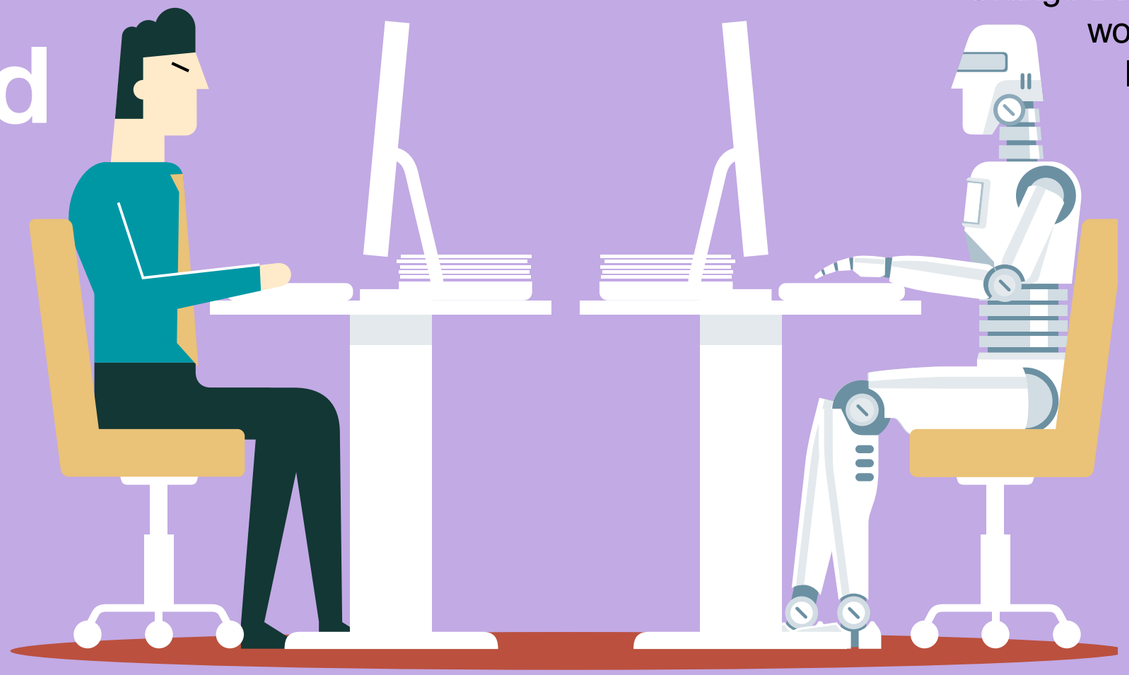
Orange Business Services focuses on **FIVE** domains of (co-)innovation:

- Augmented employee
- Augmented collaboration
- Future of industrial areas
- The energy transition
- Augmented IT and networking operations

The Agricultural Revolution of the late 18th and early 19th centuries harnessed domesticated animals for farming, and the Industrial Revolution designed machines for factory production.

The augmented employee

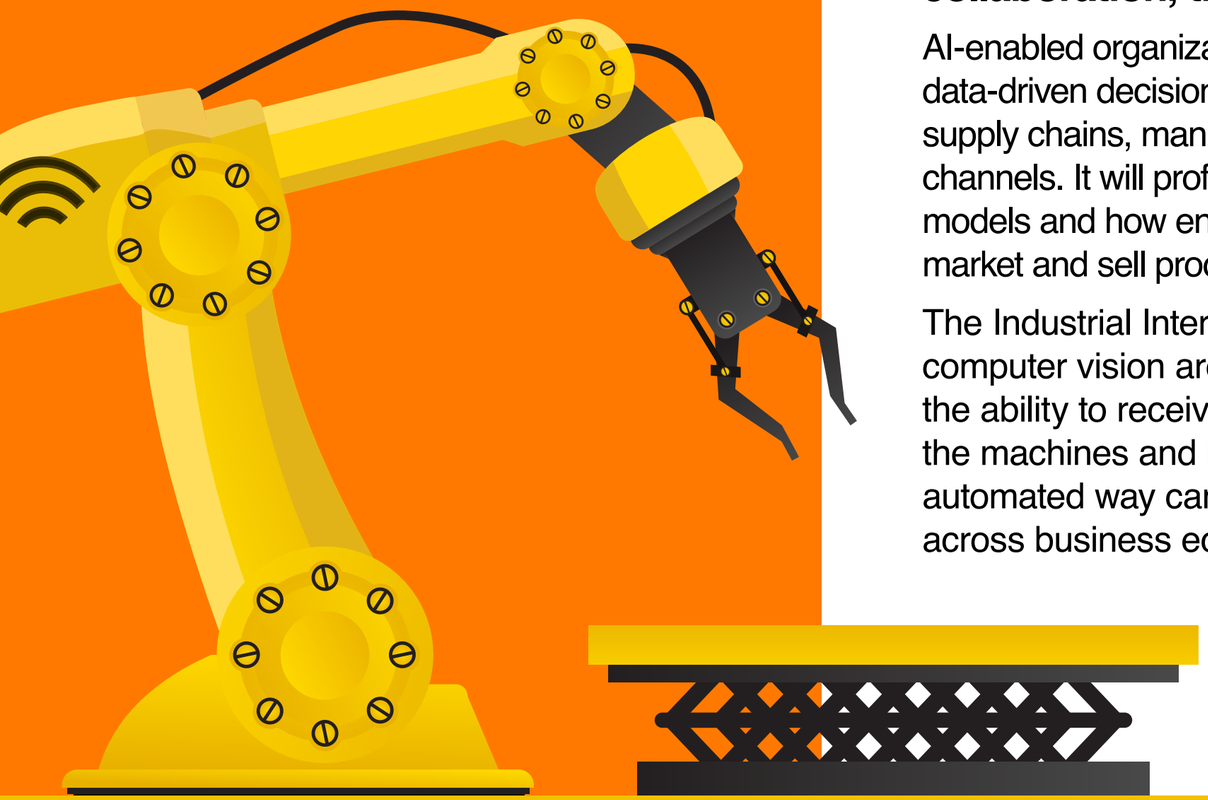
Today, the “Computational Revolution” is building on technology to augment human intelligence. Augmented intelligence focuses on AI’s assistive role in advancing and amplifying human innovation and capabilities. We’re currently seeing the “third wave” of AI – with the convergence of neural networks, deep learning, pattern matching and Internet of Things (IoT) – scaling data analysis beyond human limitations.



In 2021, Gartner forecasts that AI augmentation will generate $2.9 trillion in business value and recover 6.2 billion hours of worker productivity. It will help to underpin augmented and virtual reality (AR/VR) – providing staff in front-line roles on construction sites, in mines or factory shop floors with the data insights they need to fix equipment or optimize processes.

Orange Business Services is already working with one of the world’s largest mining companies to enable its employees to benefit from “see-through services” where a remote expert is able to guide workers in their daily tasks. This is a first step towards the use of VR/AR with AI-enabled data insights, overlaid on the machinery that workers are looking at.

Augmented collaboration



Today we have access to better collaboration tools, better spreadsheets and better planning tools. But the ways in which we make decisions have not fundamentally changed. In the era of AI-augmented collaboration, that is about to change.

AI-enabled organizations can make real-time, data-driven decisions in collaboration with their supply chains, manufacturing lines and retail channels. It will profoundly change business models and how enterprises design, make, market and sell products over the next few years.

The Industrial Internet of Things (IIoT) and computer vision are prime examples of how the ability to receive real-time data from the machines and infrastructure in a highly automated way can increase collaboration across business ecosystems.

It makes it possible to spot quality control issues earlier in the manufacturing process to reduce waste.

It's much less costly to identify problems with raw materials or parts compared to sub-assemblies or finished goods and address these issues with your supply chain or fix problems with machinery. Checks are required at every stage, something that is now possible without slowing down outputs thanks to digitization, so issues can be flagged to upstream suppliers. Robotic process automation (RPA) can also help to automate business processes – taking data out of invoices or purchase orders and inputting it directly into ERP systems.

This is what Orange calls the "Internet of Enterprises", where everything is connected – people, objects, infrastructure, business workflows and business ecosystems – to create better data-driven decision-making that powers profitable revenue growth.

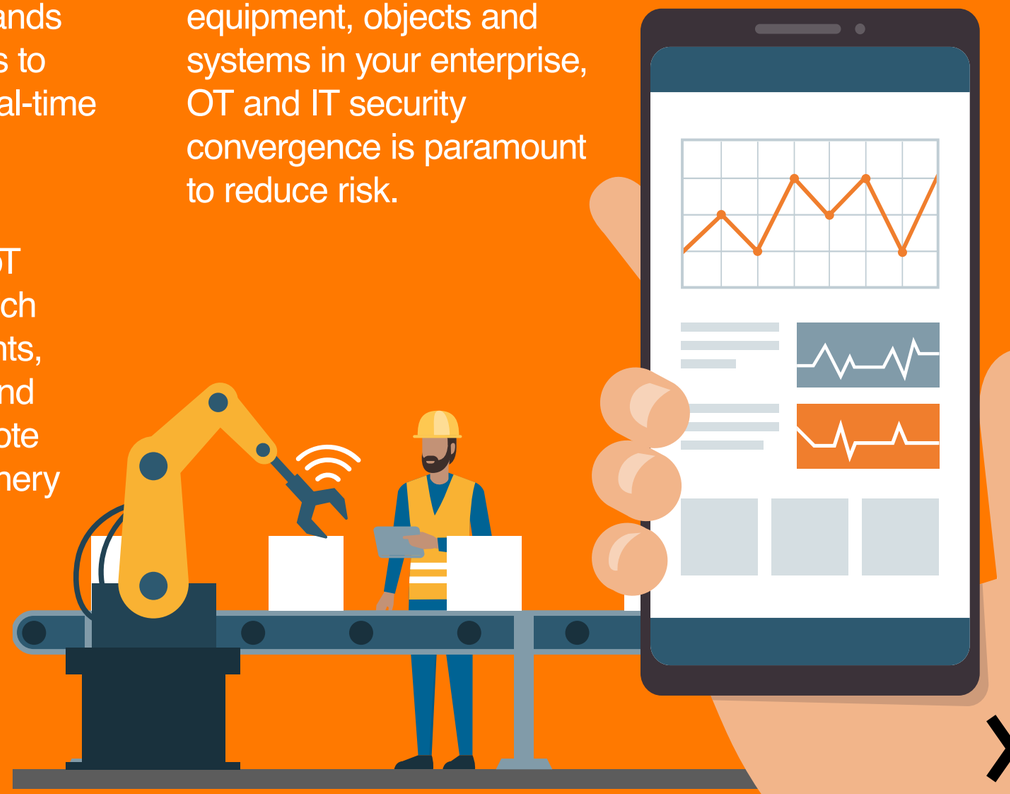
Future of Industrial areas

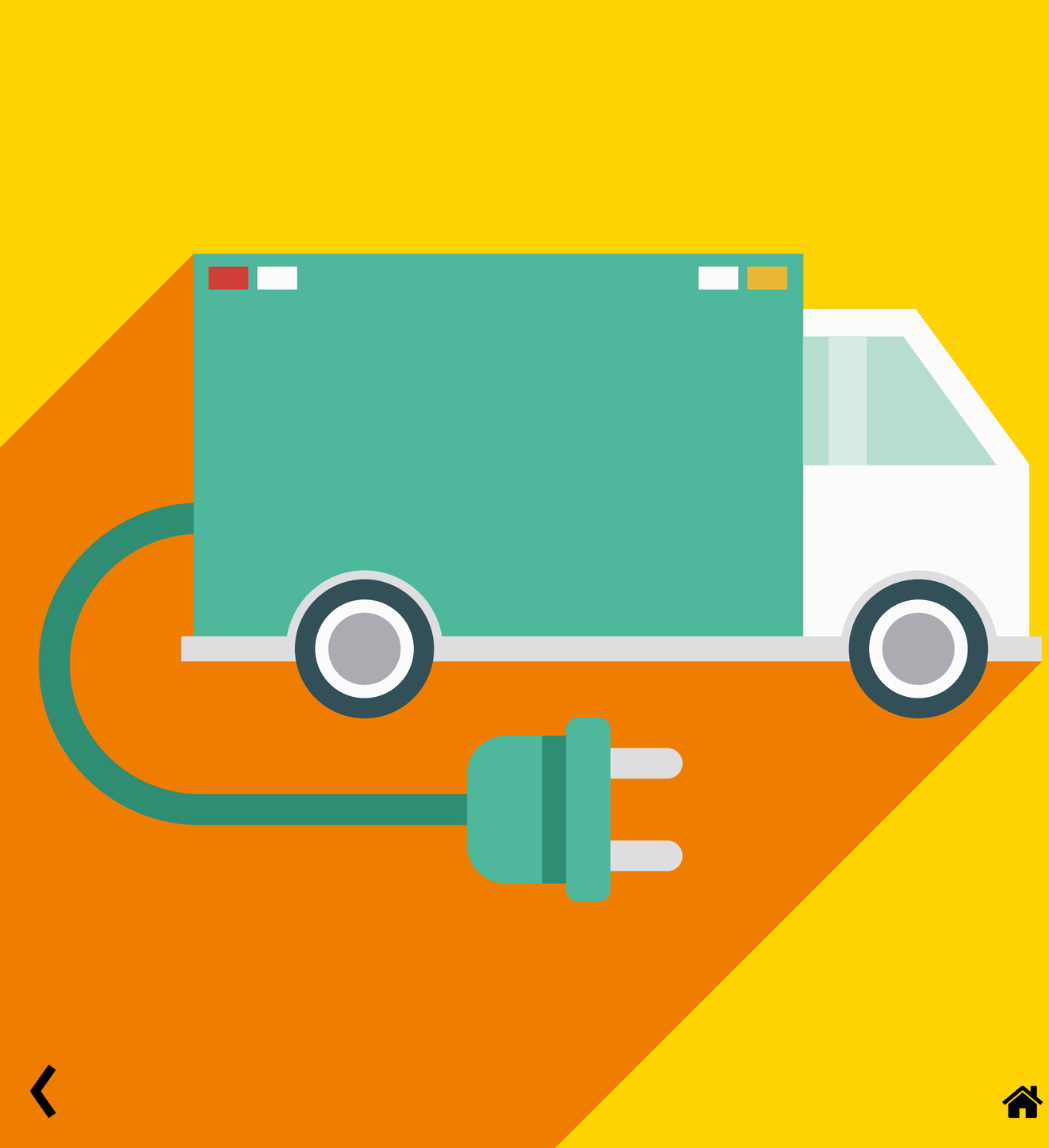
Business agility increases dramatically as data from operational technology (OT) and information technology (IT) systems is brought together in one platform. OT captures data on all the production machinery, tools and robotic systems within a factory. Whereas IT manages business processes – for example, receiving and processing orders as well as supply chain inputs and outputs.

Digital technologies, which are being adopted as part of Industry 4.0 and OT-IT convergence programs, make it possible for companies to adapt more quickly to rapidly changing customer preferences and expectations. They are enabling the era of rapid NPI (New Product Introductions), a far greater number of product variants and making mass customization economical.

We're helping enterprises to:

- **Remove data siloes in industrial environments.** Enterprises will need to progressively move away from proprietary data protocols in industrial networks and adopt open standards, enabled by a new Industrial Internet that features Time Sensitive Networking (TSN) and 5G.
- **Enable industrial workers to work in new data-driven ways.** This involves the use of ruggedized tablets or VR/AR headset displays – with voice-activated commands – giving employees hands-free access to digital work instructions and data in real-time at their moment of need.
- **Boost productivity and industrial outputs.** This can be achieved with IoT solutions for asset management – which includes both asset tracking (ingredients, components, goods, tools, vehicles) and asset management (for example, remote and predictive maintenance on machinery and equipment).
- **Ensure security across entire value chains.** With an ever-increasing number of suppliers plugging into connected equipment, objects and systems in your enterprise, OT and IT security convergence is paramount to reduce risk.





Energy transition

The energy transition represents a pathway towards zero carbon energy sources and a move away from fossil-based energy by the second half of this century.

It's driven by the need to reduce energy-related CO2 emissions with improved electricity storage, increased low-carbon power generation and more efficient consumption.

For example, Orange Business Services is working with Enedis, the electric grid operator for much of France, and connecting hundreds of thousands of objects across the country's electricity distribution network and over 3,000 industrial sites. We're enabling Enedis to develop energy flow data collection, monitor electrical substations in real-time and manage networks remotely with automated self-healing if there is a fault.

The shift to a smarter electricity distribution network will help pave the way for electric vehicle charging and home-to-grid generation.

Augmented IT and networks

Enterprises need to increase their resilience in today's digitally dependent and data-driven era. Performance slow-downs, outages, cyberattacks and data breaches are major risks with the potential to cause massive reputational and financial damage.

Artificial intelligence for IT operations (AIOps) is vital to automate identification and resolution of IT problems, and to help analyze immense volumes of log and performance data. It helps enterprises to better monitor and manage dependencies within and between IT systems for greater uptime.

AI-infused security will play a key role in identifying, preventing and responding to an otherwise overwhelming volume of threats, complementing the work of highly skilled cyber analysts.

We'll also see a move towards more autonomous infrastructure to make it easier to manage and boost performance levels. The technologies that will have most impact in this area include AI/ML, Software-Defined Networks, self-healing networks, intent-based networks, data lakes and threat clustering.

Why should you co-innovate with us?

A rich co-innovation ecosystem

Orange Business Services and the Orange Group have connected all our innovation capabilities across our company to enable us to successfully co-innovate with multinational companies around the world.

This includes research and thought leadership to identify market, technology and industry trends. Through Orange Fab and Orange Digital Ventures, we partner with and invest in growth-stage companies that create innovative enterprise technologies. Meanwhile, Orange Labs incubates and prototypes new concepts through applied research and development projects. In addition, our innovation and delivery centers build and scale the right innovations for our customers.

Our capabilities and expertise include:

- A global think tank, the Orange Institute, which works to understand and prepare for the rapid changes that digital innovations bring to our networked society.
- 8,000 R&D specialists at Orange Labs in 15 locations across four continents with 7,000 patents to date.
- A state-of-the-art Customer Innovation Center in Paris and digital garages co-built with customers around the world. We also run hackathons and participate in our customers' Dragon's Den or Shark Tank competitions and pitch our innovation ideas.
- Centers of Excellence in various vertical industries. This includes a focus on Maritime in Russia and Smart Cities in Dubai.

A rich co-innovation ecosystem (continued)

A systematic approach to managing innovation is the key to greater financial impact. That is why we:

- Actively promote our internal innovation program with an impressive participation rate of 1 in 3 employees.
- Invest in 130 start-ups globally through **Orange Digital Ventures** and support 100+ start-ups a year through our Orange Fab incubator program.
- Operate 16 start-up accelerator programs in 17 countries on 4 continents. Born in 2013 in Silicon Valley, Orange Fab has supported 400+ start-ups in France, the rest of Europe, the Middle East and Africa, and the US. This includes a network of start-up incubators in 4 countries in Africa (Senegal, Mali, Nigeria and the Republic of Guinea).
- Are active in governmental, academic and industry innovation communities and standards bodies.

Companies thrive on innovation. We work to shape yours.

Want to know more?

To find out more about how we can help you with your digital transformation strategy, please contact our digital consulting team at **consulting@list2.orange.com**