

F R O S T & S U L L I V A N

FROST & SULLIVAN BEST PRACTICES AWARD

EMERGING INDUSTRIAL IOT-AI PLATFORM - GLOBAL

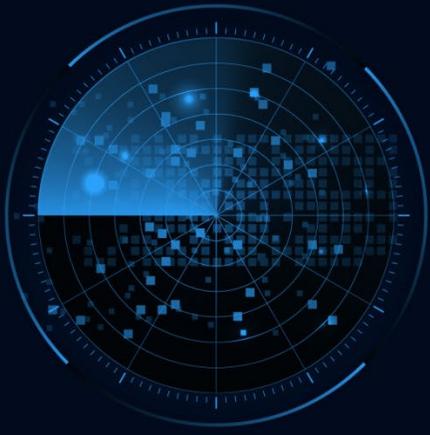
Growth Excellence Frost Radar 2019

relayr.

FROST & SULLIVAN

2019

BEST  
PRACTICES  
AWARD



# FROST RADAR

## CONGRATULATIONS!

Frost & Sullivan is proud to present relayr with this year's Frost Radar Best Practices Award for Growth Excellence in the global emerging Industrial IoT-AI platform market.

Frost & Sullivan's global team of analysts and consultants continuously research a wide range of markets across multiple sectors and geographies. As part of this ongoing research, we identify companies that consistently develop new growth strategies based on a visionary understanding of the future, and thus more effectively address new challenges and opportunities. This involves extensive primary and secondary research across the entire value chain of specific products. Against the backdrop of this research, Frost & Sullivan recognizes relayr for these valuable achievements.

This recognition is strictly reserved for companies that are market leaders and are at the forefront of innovation. These companies consolidate or grow their leadership position by continuously innovating and creating new products and solutions that serve ever-evolving customer needs. These companies are also best positioned to expand the market by strategically broadening their product portfolio. Achieving Growth, Innovation & Leadership (GIL) is never an easy task, but it is one made even more difficult considering today's intensely competitive environment, customer volatility, economic uncertainty, and rapid technology evolution. Within this context, Relayr's receipt of this Award signifies an even greater accomplishment.

Moreover, this recognition is the result of many individuals (employees, customers, and investors) making daily choices to support the organization and meaningfully contribute to its future. Frost & Sullivan enthusiastically acknowledges and celebrates these achievements. Once again, congratulations on your accomplishments and we wish you great success in the future.

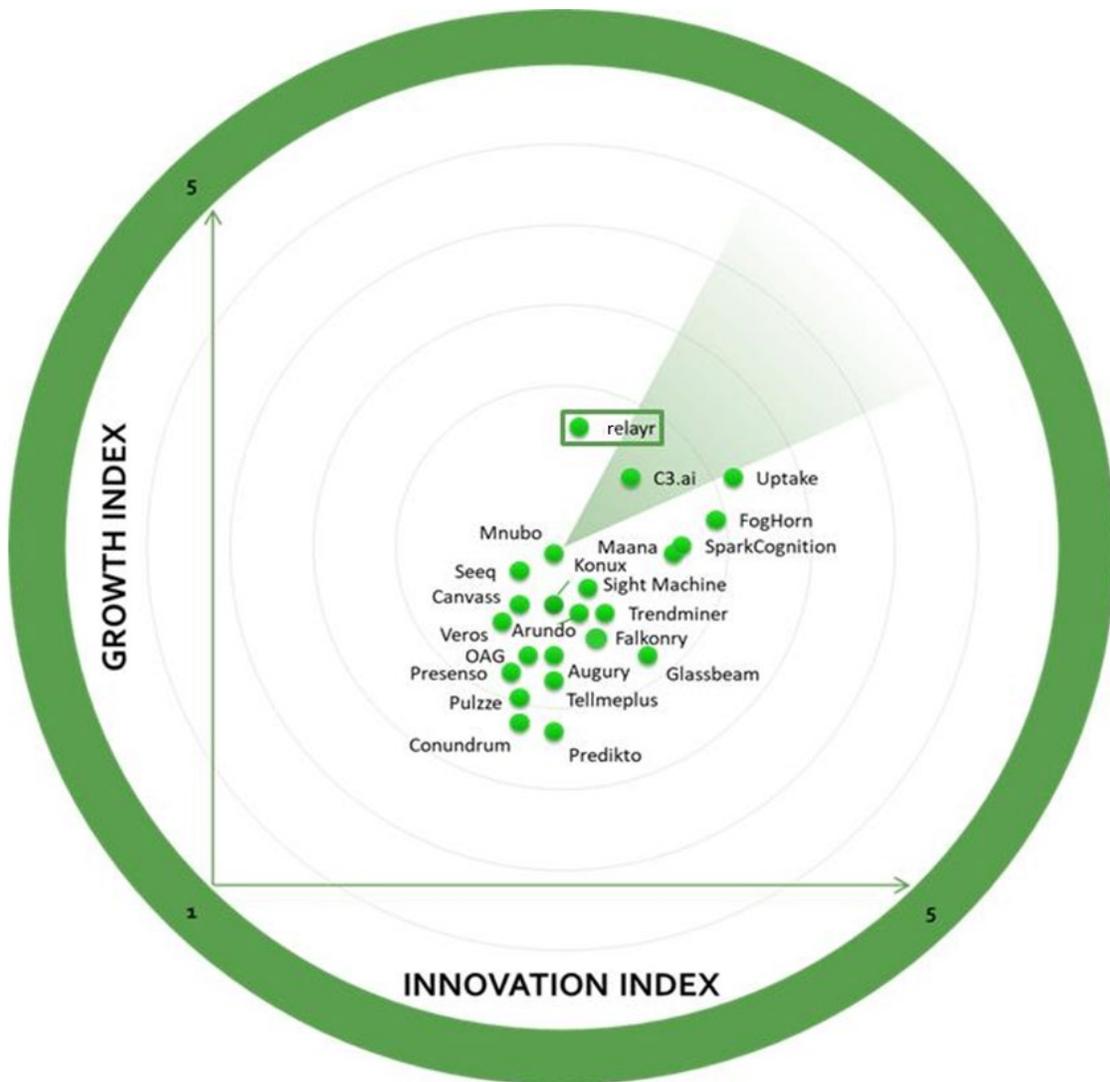
Sincerely yours,

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## The Frost Radar

### Global Emerging Industrial IoT-AI Platform Market



Source: Frost & Sullivan

In a field of over 60 global industry participants, Frost & Sullivan has independently ranked the top 23 companies in the above Frost Radar analysis.

The key parameters independently analyzed by Frost & Sullivan include:

- Innovation Scalability
- R&D
- Product Portfolio
- Mega Trends Leverage
- Customer Alignment
- Growth Pipeline
- Vision and Strategy
- Sales and Marketing

Frost & Sullivan studies related to this independent analysis:

- Frost Radar: Global IoT Platforms Market, 2018

## Industry Overview

The Internet of Things (IoT) is a complex ecosystem that integrates information technology (IT) with operational technology (OT) to generate data that can be analyzed to increase revenues and improve business productivity. The IoT has moved from the machine-to-machine (M2M) era in which monitoring an asset was the main objective to sensing, gathering data, monitoring, and controlling spaces and conditions of those spaces. Frost & Sullivan's research underlines that the adoption of IoT impacts every economic sector and living environment: from smart cities to manufacturing, from healthcare delivery services to retailers.

However, the IoT vision has not yet reached its potential. The ambitious objective of IoT is to predict conditions and situations, prescribe solutions, and automate processes. To achieve this, IoT has to solve issues such as security, interoperability, as well as trust and identity. It must increase the level of data readiness in organizations, boost the level of machine intelligence, and strike the optimum balance between the edge and the cloud.

To face these challenges, emerging technologies such as distributed ledger technologies (DLT) and artificial intelligence (AI) are increasingly necessary. Therefore, the landscape of players involved in IoT projects should expand to encompass providers of emerging technologies. A new era of convergence has started—the convergence between the IoT and AI.

Predicting undesired conditions and being able to prescribe solutions to avoid those situations is a powerful combination for optimizing processes, reducing resource consumption, improving human resource contribution to enterprise processes, and stimulating innovation in organizations.

However, predicting and prescribing requires sophisticated analytics solutions that build on different sources of data (IoT data, organizational data, external data) and can model spaces, analyze the historical behavior of the space and machines within the space, and anticipate possible conditions. The organization can act to avoid these conditions or machines can autonomously act to avoid those conditions.

AI is suited to supporting these requirements. It is important to note that AI is an umbrella term: “artificial intelligence is the science and engineering of making intelligent machines” (McCarthy, 2007). There are several branches of AI. The one that the industry is exploring to achieve a “predicting and prescribing” framework is machine learning (ML). ML techniques help machines to learn without explicit programming.

Currently, ML is being applied in IoT contexts. Research reveals that strongly process-oriented sectors are more receptive of the convergence IoT-AI. Several activities and projects are happening in manufacturing (Industrial Internet), oil and gas, and mining.

## Frost Radar Growth, Innovation & Leadership Award relayr

### COMPANY DIAGNOSTIC

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Relayr is an Industrial Internet of Things player helping industrial organizations digitally transform through the vision of Industry 4.0. Its proposition is composed of four aspects: technology, delivery, insurance, and financing. The technology includes an IoT platform, edge computing, visualization tools, and AI suites.

The company's key focus sectors are automotive manufacturing, food manufacturing, and energy.

It is headquartered in Germany with 7 offices in Europe and North America employing +250 people.

Since the establishment in 2013, the company has shown a strong growth strategy. Initially, relayr was mainly known for its Wunderbar IoT hardware developer kit, which was meant for developers with no hardware skills so they could rapidly deploy applications. The company then moved into an investment journey starting in 2014 with a crowdfunding campaign raising \$2.3 million. In 2015, the company then raised \$11.25m and in \$23m in 2016 with the involvement of Munich Re/HSB. Meanwhile, the attention of the market on the company raised and relayr evolved its offer also through acquisition. At the end of 2016, the company acquired the device management company Proximity. At the beginning of 2017, it acquired the AI data security company, Neokami. As result of this journey, during Summer 2017, TechCrunch nominated relayr as "The Hottest Internet of Things Start-up". The end of that journey is the acquisition by Munich Re for \$300m in September 2018.

### FROST RADAR POSITIONING

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During the investment journey described above, relayr has also established itself as an important player in industrial automation by not only providing a robust solution that looks at the business outcomes as final objective. In fact, the market proposition is composed of four dimensions: technology, delivering, financing, and insurance. The technology dimension consists of various components necessary for delivering an industrial solution (edge, middleware, AI, visualization). The delivering dimension looks as the deployment of the industrial solution. It is very important because it gives the sense of an organization, which understands the complexity of industrial sectors. And that complexity reflects also on the CAPEX and OPEX. With the financing dimension, relayr can support different speeds and approaches of design and deployment. Finally, the presence of Munich RE offers end-to-end insurance packages.

This complex and structured offer has attracted numerous customers. In fact, relayr solutions are used by large and mid-size manufacturers in various industrial sectors such as Flanders (Mining, Mills, Oil&Gas, Power Generation, Energy & Utilities as well as Specialty Industries), Coborn (diamond

industry), Leoni (automotive industry), Grohe (water systems), GE Transportation, and Aluvation (automotive industry).

The investment journey and the definition and implementation of a clear market proposition, well-beyond just the technological aspect, has driven the growth of relayr in the market place taking the company to the status of reference company in case of AI-based industrial automation solutions.

## COMPANY STRENGTHS

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Relayr has demonstrated a strong capacity of reading the evolution of IoT-AI-based solutions for industrial sectors. Behind that, there is a strong understanding of the need and the complexity of those sectors. This is a fundamental aspect in this market domain.

Because of that capacity, relayr has proven the value of its proposition and approach in several manufacturing applications, such as elevator system maintenance, textile manufacturing, motors and generators manufacturing, as well as automotive production optimization.

A strong innovation capability has also made all this possible. This innovation has happened through a combination of in-house development, strategic acquisitions (Proximetry and Neokami) and partnerships.

Relayr has created a strong multidisciplinary ecosystem of partners that includes companies such as Cisco, Microsoft, AWS, Google Cloud, Intel, Dell, LoRa Alliance, T-Systems, Bearing Point, and Porsche Consulting. This is a source of innovation, market opportunities, but, above all a clear sign, looking at the names in the ecosystem, that the market sees relayr as an important player.

## COMPANY OPPORTUNITIES

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Relayr has three fundamental conditions in place for experiencing further growth sector-wise, but also geographically:

- 1) The company has reached a strong financial stability after the acquisition of Munich RE.
- 2) Relayr proposes a flexible approach to industrial problems with ability to move accordingly between the edge and the cloud. The proposition adapts to the customer through ideas as such as “equipment-as-a-service” transforming business models and making them data-centric.
- 3) The ecosystem of partners is prestigious and growing in technological terms, but also bringing in companies specialized in specific sector applications. The company is growing rapidly, becoming a desirable partner for industrial organizations on the digital transformation journey.

Frost & Sullivan firmly believes that relayr is and will be one of the preferential partners for industrial organizations involved in the strategic journey of digital transformation. As this journey becomes more sophisticated and IoT-AI based solutions increase in demand, relayr will also be the ideal partner to consider in Frost & Sullivan’s opinion.

## **What is the Frost Radar?**

### **A Practical, High Impact, Scalable C2A (Companies to Action) Tracking Solution**

#### **WHAT IS IT?**

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A robust analytical tool that benchmarks companies' innovation focus and growth performance in a given market.

#### **HOW IS IT BUILT?**

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Through in-depth analysis built on our 360-degree research methodology (primary and secondary research) and objective rating of companies in any given market.

#### **WHY DO WE NEED IT?**

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To understand how companies benchmark against each other in their ability to innovate and grow against a backdrop of industry transformation and evolution.

#### **WHAT WILL IT ACCOMPLISH?**

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Enable companies to gain an objective, independent perspective of their innovation and growth strategies, including their robustness, effectiveness, relative competitive strength, and implications on their long-term success.

#### **HOW TO USE IT?**

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Frost Radar is a dynamic tracking tool that offers frequent rating and positioning of companies that are leading the industry on growth, innovation or both. Due to changes in operating environment and internal changes within these organizations, their positioning in Frost Radar will change over time. It is important to leverage Frost Radar to ensure that companies are aware of changes to their ecosystem and their relative positions to it.

#### **WHAT DOES IT MEAN TO BE ON THE FROST RADAR?**

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Every company that finds itself on the Radar has been chosen because they have proven themselves to be worthy by demonstrating excellence in either growth, innovation, or both, and are able to translate that into proven solutions that benefit their clients. At times, companies with high market share may not place on the Radar. Companies are chosen because they are already doing great things, or because they are poised to do great things.

## Frost Radar → C2A

All companies on the Frost Radar could be C2A. Best Practice recipients are the companies that Frost & Sullivan considers the **Companies to Act On Now**.

### GROWTH EXCELLENCE AWARD

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The Growth Excellence best practice award is bestowed on companies that are achieving high growth in an intensely competitive industry. This includes emerging companies making great strides in market penetration or seasoned incumbents holding on to their perch at the pinnacle of the industry.

### INNOVATION EXCELLENCE AWARD

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The Innovation Excellence best practice award is bestowed on companies that are industry leaders reinventing themselves through R&D investments and innovation. These may be companies that are entering a new market and contend for leadership through heavy investment in R&D and innovation.

### GROWTH, INNOVATION & LEADERSHIP AWARD

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The Growth Innovation Leadership (GIL) best practice award is bestowed on companies that are market leaders that are at the forefront of innovation. These companies consolidate or grow their leadership position by continuously innovating and creating new products and solutions that serve the evolving needs of the customer base. These companies are also best positioned to expand the market by strategically broadening their product portfolio.

## Frost Radar

### 2 Major Indices, 10 Analytical Ingredients, 1 Platform

#### VERTICAL AXIS – THE GROWTH INDEX

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Growth index is a measure of a company's growth performance and track record, along with its ability to develop and execute a fully aligned growth strategy and vision; a robust growth pipeline system; and effective market-, competitor-, and end-user focused sales and marketing strategies.

- **GI1: Market Share (previous 3 years):** Market share relative to its competitors in a given market space for the previous three years.
- **GI2: Revenue Growth (previous 3 years):** Revenue growth rate for the previous three years in the market/ industry/category that forms context for the given Frost Radar.
- **GI3: Growth Pipeline:** This is an evaluation of the strength and leverage of the company's growth pipeline system, to continuously capture, analyze and prioritize its universe of growth opportunities.

- **GI4: Vision and Strategy:** This is an assessment of how well a company's growth strategy is aligned with its vision. Are the investments the company is making in new products and markets consistent with the stated vision?
- **GI5: Sales and Marketing:** This is a measure of the effectiveness of a company's sales and marketing efforts in helping the company drive demand and achieve its growth objectives.

## HORIZONTAL AXIS – THE INNOVATION INDEX

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Innovation index is a measure of a company's ability to innovate products/services/solutions that are developed with a clear understanding of disruptive Mega Trends, are globally applicable, are able to evolve and expand to serve multiple markets, and are aligned to customers' changing needs. Key elements of this index include:

- **II1: Innovation Scalability:** This determines whether the organization's innovation(s) is/are globally scalable and applicable in both developing and mature markets, and also in adjacent and non-adjacent industry verticals.
- **II2: Research and Development:** This is a measure of the efficacy of a company's R&D strategy, as determined by the size of its R&D investment and how it feeds the innovation pipeline.
- **II3: Product Portfolio:** This is a measure of the product portfolio of the company, focusing on the relative contribution of new products to its annual revenues.
- **II4: Mega Trends Leverage:** This is an assessment of a company's proactive leverage of evolving long-term opportunities and new business models, as the foundation of its innovation pipeline.
- **II5: Customer Alignment:** This evaluates the applicability of a company's products/ services/ solutions to current and potential customers (7-year horizon), as well as how its innovation strategy is influenced by evolving customer needs.