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you are not speaking

Industry 4.0 & IoT Global Community Call

28th June 2022



Agenda

1. *Hannover Messe Update* - Britta Mittlefehldt
2. *Wichita Smart Factory* - Marissa Buzan
3. *IoT Assets* – Marco Gotelli

1. Hannover Messe Update

Britta Mittlefeldt

Hannover Messe 2022 (HM22) – May 30th to June 2nd

Deloitte was present at one of the largest industry trade shows in the world with its solutions based on ServiceNow

Deloitte as main sponsor of ServiceNow at HM22

At HM22, Deloitte was the main sponsor of ServiceNow, the developer of one of the world's leading enterprise platforms.

During the four days at one of the largest industry trade fairs, we presented our solutions at the booth of ServiceNow in the areas of software compliance, supply chain management and shop floor management.



Deloitte solutions based on ServiceNow



UNECE 155 Software Compliance

Deloitte's approach to establish a Cyber Security Management System in the automotive industry, covering important areas such as vehicle risk management, security operations, supplier security monitoring, CSMS governance, etc.

Further Information:
[Website](#)



Connected Supply Chain (CSC) + Supply Chain Due Diligence Act (SDDA)

CSC: Leverage ServiceNow CSM Platform incl. workflow, reporting and knowledge databases for processing real-time events, automate workflows, etc.

SDDA: ServiceNow Vendor Management to support the tracking and auditing the Supply Chain Due Diligence Act

Further information:
[Website](#) or [Video](#)



OTSM Managed Shop Floor + Smart Factory Showcase

OTSM: Deloitte's holistic approach to professionalize the management of operational technology (OT), increasing efficiency and standardization on the shop floor.

Smart Factory: Cobot Yumi showcase from the Smart Factory Düsseldorf

Further Information:
[Website](#) or [Video](#)

Our key benefits from HM22

During the four days we were able to significantly strengthen the presence of Deloitte as a brand and its industrial expertise

<Automobile
Manufacturer #1
Logo>



Reinforcing the exchange with our clients

We were able to exchange with high-ranking client at HM22 (e.g. <Automobile Manufacturer #1>, Bosch Rexroth) and show them our solutions. This has helped us enormously in our discussions with them.



Pushing our solutions internally

We could showcase our solutions internally (e.g. Deloitte Consulting CEO Sam Balaji) and were able to create awareness that our work is of absolute importance to Deloitte and to our clients.



Strengthening Deloitte as a brand

We strengthened our public perception by demonstrating that we have innovative answers for current challenges and are working with powerful technology partners to achieve this.

2. Wichita Smart Factory

Marissa Buzan

Are you ready to become a believer?

The Smart Factory @ Wichita is a one-of-a-kind, immersive Industry 4.0 Experience Center that spurs innovation and growth — and a belief that anything is possible.

The **Smart Factory @ Wichita** is more than a building. It uniquely showcases the capabilities of leading digital transformation companies brought together by Deloitte to transform manufacturing. It is nearly 60,000 square feet of **smart and sustainable innovation**.

Here, we will demonstrate how a smart factory can transform your entire enterprise. And we do it with a **real-life production line** that delivers tangible benefits you can see for yourself.



The Smart Factory Experience

When you come to The Smart Factory @ Wichita, Deloitte will lead you on a customized Experience tailored to your company's digital transformation goals, with particular emphasis on the Smart Factory use cases applicable to your business.



ARRIVAL

Arrive at the Smart Factory, align on expectations for the day, and learn about our Smart Rover kit product being manufactured live at the facility and our philanthropic mission.

TODAY ROOM

Dive into the history of manufacturing and understand the challenges of today, and the opportunities that lie ahead.

TOMORROW ROOM

Demystify Industry 4.0 and discover what the specific tools and technologies are driving it through exploration of the Great 8 Smart Factory use cases.

COMMAND CENTER

Visit the "brain" of the factory and see a holistic system's view of the factory's operations and intelligence, while continuing to explore the Great 8 use case cases.

FACTORY FLOOR

See a real product being produced using a fully-connected tech stack and industrial-grade production line and understand the physical-digital connection between the Great 8 use cases.

DEBRIEF

Reflect on the experience, discuss the art-of-the-possible in relation to client Smart Factory goals and challenges, and determine next steps for the client's Smart Factory journey.



THE SMART FACTORY

The Smart Factory @ Wichita experiential facility opened its doors officially to clients in February 2022. This Summit engaged individuals across internal and external cohorts and drove new business opportunities by bringing Deloitte's smart factory narrative to life through demonstrating the power of The Smart Factory Ecosystem and launching Deloitte's purpose positioning for sustainability, STEM, and economic development.

We are making manufacturers the world's smartest organizations.

Because we believe in their extraordinary human potential.

Smarter manufacturing is making workforces safer, and industry more sustainable.

It's attracting newly skilled people, building communities, and improving the products that we all rely on every day.

It is showing the way to smarter everything; from energy, to technology, to healthcare and beyond.

And it's doing it all while increasing efficiency, building resilience and creating new levels of growth.

Smart manufacturing is a significant advantage, and together we can engineer it.

We've convened an ecosystem of selectively chosen, world-leading organizations; combining the strategy, innovative technology and hands-on practicality that turn smart potential into reality.

We are Deloitte.

Making manufacturers the world's smartest organizations.



SMART FACTORY SUMMIT BY THE NUMBERS

350+

Summit and Gala Attendees
across 12 unique internal and external cohorts

100+

Factory Tour Attendees
Across 7 small group tours in 2 days

33

Thought Leaders Participated
14 Deloitte, 19 External
(8 from Smart Factory Ecosystem)

17

Press Conference Attendees
Live and Virtual from **13** media outlets

150+

Deloitte, Client, and Ecosystem
Dine Around Attendees
across 6 dining groups at 2 local Wichita restaurants

900K+

Potential Social Impressions
Generated by

40

Clients from 23 unique
organizations
across 6 sectors

226

Social Mentions
across Twitter, Instagram, Facebook
6/2-6/15

THOUGHT LEADERSHIP

Manufacturing Trends

CENTERING ON THE 'WHY' AND AN INTRO TO THE SUMMIT'S PURPOSE AND AGENDA

Opening Keynote with Guest Speaker from Spirit AeroSystems

Nishita thanked and welcomed The Smart Factory Ecosystem. She shared her perspective on macrotrends that are creating opportunities for manufacturing and adjacent companies to transform how they operate. She was joined by Spirit AeroSystems, who has already completed several stages of its Smart Factory journey and to discuss their investment outcomes, capabilities developed, and lessons learned.

SPEAKERS:

Nishita Henry, Principal, US Chief Innovation Officer, Deloitte Consulting LLP

Kevin Matthes, Senior Vice President Chief Technology and Quality Officer, Spirit AeroSystems



EXPERIENCE

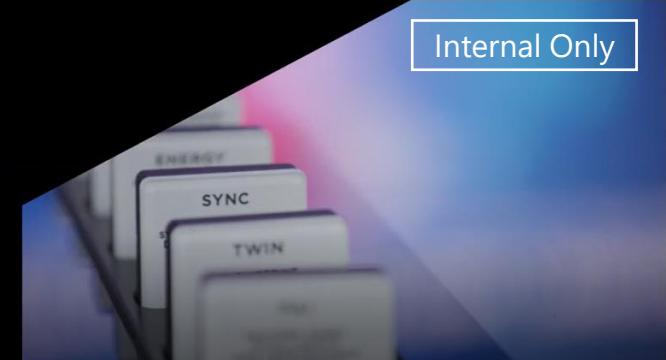
Setting the stage: Smart Factory pillars

High-energy 'by the numbers' video on the making of The Smart Factory @ Wichita kicked off the day



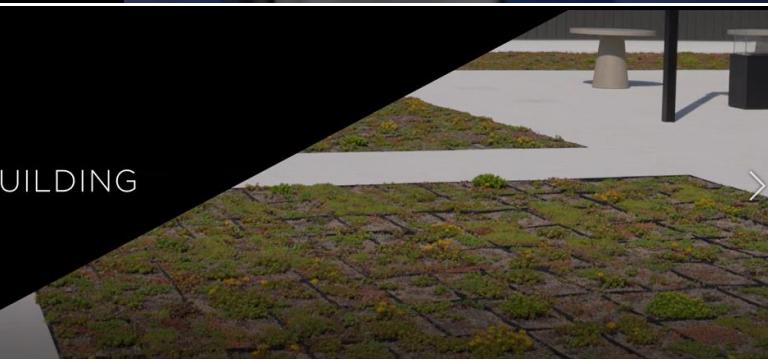
EXPERIENCE

50+ SMART MANUFACTURING USE CASES



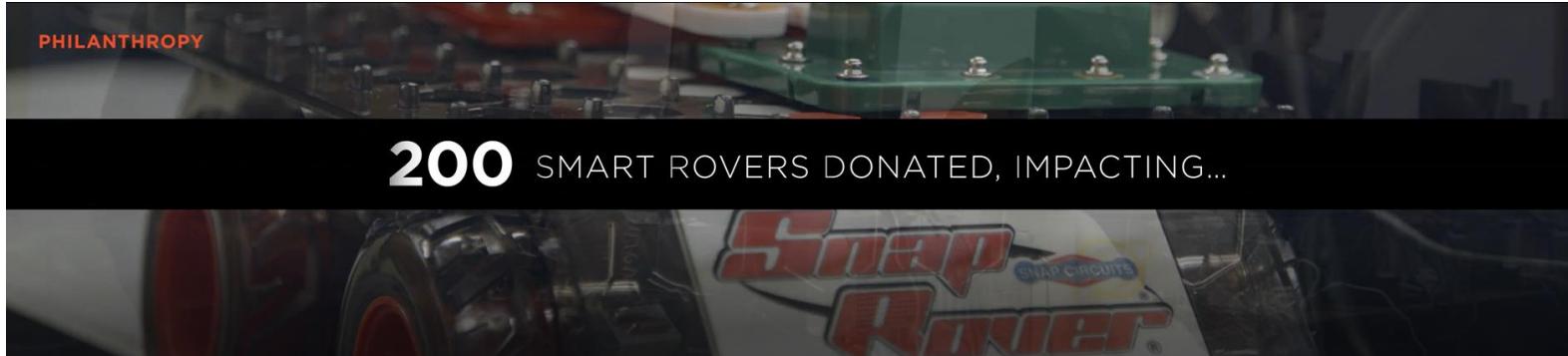
SUSTAINABILITY

60,000 SQUARE-FOOT, NET ZERO BUILDING ON SMART GRID



PHILANTHROPY

200 SMART ROVERS DONATED, IMPACTING...



COMMUNITY

5,000 VISITORS EXPECTED OVER NEXT **12** MONTHS



Why Wichita

WHY DELOITTE AND THE SMART FACTORY ECOSYSTEM CHOSE TO INVEST IN WICHITA AND WICHITA STATE UNIVERSITY

Dan presented key statistics about the region and Dr. Rick Muma discuss the investments that are happening on the Innovation campus.

SPEAKERS:

Dan Helfrich, Principal, US Consulting
Chief Executive Officer, Deloitte Consulting LLP

Dr. Richard Muma, President,
Wichita State University

Dr. Muma thanked Deloitte and presented Dan and Nishita with gifts (original watercolor on metal illustration of The Factory and a few new hats for Dan's collection)



The power of the ecosystem

THE SMART FACTORY ECOSYSTEM WAS SHOWCASED TO ENTICE NEW PARTNERS AND ADVANCE CLIENT OPPORTUNITIES

Future of Manufacturing Panel

Noemie was joined by leaders from our Smart Factory Ecosystem Founders including AWS, Infor, Dragos, SAP and Siemens to discuss the importance of the ecosystem and perspectives on the future of manufacturing and how we can overcome current constraints to move forward.



Moderator:

Noemie Tilghman, US Consulting National Oil, Gas & Chemicals (OG&C) Sector Leader, Deloitte Consulting LLP

PANELISTS:

Dan Helfrich, Principal, US Consulting Chief Executive Officer, Deloitte Consulting LLP

Mark Ronaldson, Leader, US State and Local Government and Education West, Amazon Web Services, Worldwide Public Sector

PANELISTS con't:

Ed Allen, Executive Vice President and General Manager, Discrete Manufacturing Industries, Infor

Christophe Culiné, President of Global Sales and Chief Relationship Officer, Dragos

Thack Brown, Chief Operating Officer North America, SAP

Bob Jones, Executive Vice President Global Sales and Customer Success, Siemens Digital Industry Software

THOUGHT LEADERSHIP

Factory takes center stage

Guests were first transported (by drone video) from the Summit to The Factory and then heard 'live' about the experience center from Deloitte leaders



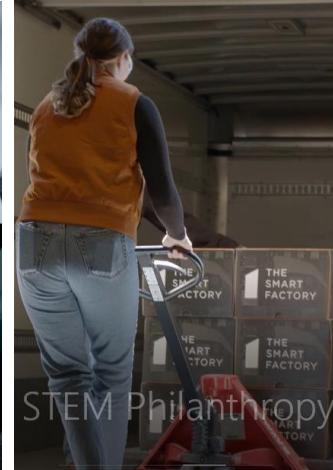
THOUGHT LEADERSHIP

Launched philanthropic mission

VIDEO CREATED FOR AND UNVEILED AT SUMMIT WILL PUBLISH TO KICK-OFF EXTERNAL BROAD PROMOTION

To introduce The Smart Factory @ Wichita's philanthropic mission to Summit attendees, a new video was unveiled. The video features the Brooks Middle School in Wichita, one of the first schools to receive Smart Rover donations.

Deloitte leaders are joined in the video by Mr. Kelly Bielefeld, Wichita Public Schools Executive Director of College & Career Readiness and Brooks Middle School Principal, Walter Givens and a cameo in the video includes Smart Factory Founding sponsor, AWS in their partnership of these efforts.



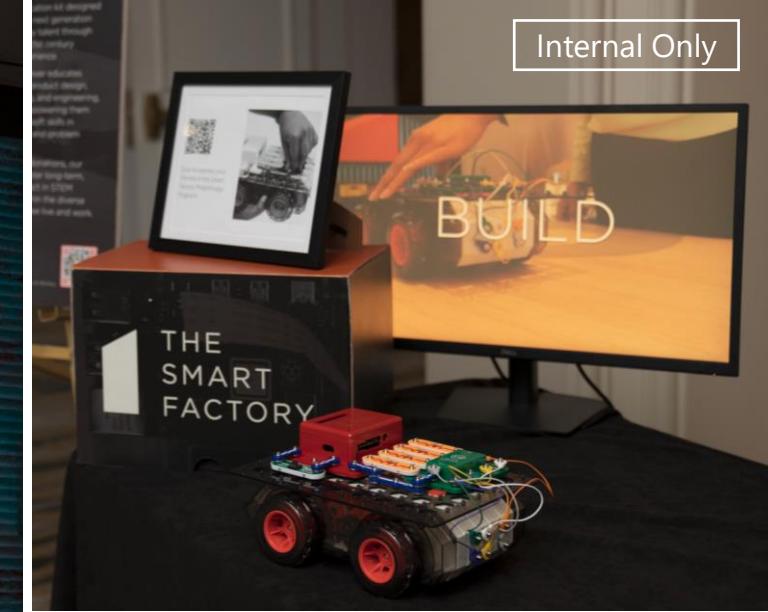
Anchored on purpose

OUR STEM PANEL DISCUSSED HOW TO
ENABLE THE NEXT GENERATION OF BELIEVERS

Enabling the Next Generation of Believers Panel

The manufacturing industry is facing an oncoming skills and talent gap that will result in 2 million of nearly 3.5 million manufacturing jobs unfilled. Our panel of science, technology, engineering, and math (STEM) educators and innovators discussed how our audience can tackle this gap by breaking down barriers and enabling the next generation of STEM talent to believe in both themselves and STEM-focused career in manufacturing and beyond.

Attendees learned more about the Smart Rover during breaks in the action.



Moderator:

Kwasi Mitchell, US Consulting
Chief Purpose Officer, Deloitte Consulting LLP

PANELISTS:

Kelly Bielefeld, Executive Director of College and Career Readiness, Wichita Public Schools

Michelle Stie, Vice President of Teaching and Learning, National Math & Science Initiative

Linda Kramer, Vice President of Marketing, Elenco Electronics

Dr. Jennifer Stimpson, STEM Educator and If/Then STEM Ambassador

Investing in manufacturing: a unique point of view

AN ENGAGING AND FUN CONVERSATION
WITH EXTERNAL CELEBRITY SPEAKERS FROM
THE ABC SHOW, SHARK TANK

A conversation with Robert Herjavec and Daymond John

Dan explore key principles that underpin successful investments through the eyes of two business leaders who have become household names in entrepreneurship.



Moderator:

Dan Helfrich, Principal, US Consulting Chief Executive Officer, Deloitte Consulting LLP

PANELISTS:

Robert Herjavec, Businessman, Investor, and Star of ABC's Emmy Award-winning show, Shark Tank

Daymond John, Founder & CEO of FUBU, Star of ABC's Emmy Award-winning show, Shark Tank, CEO of The Shark Group, consulting agency

3. IoT Assets

Marco Gotelli

Deloitte IoT Italy Asset

IDEA – IoT Energy & Utilities Management

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INTELLIGENT

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DELOITTE

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ENERGY

A

ASSET

IDEA is an **IoT based** application that helps clients to manage **energy** consumptions in **real-time** from different sources, combining the IoT approaches enhanced by machine learning capabilities with traditional EMS

IoT metering

You can't **optimize** what you don't measure

Why Metering Energy Usage:

- Gain insight into **when, how much and where** energy is used
- Real-time data view for energy consumption identification, system anomalies examination and data contextualization
- Data storage
- Pattern Analysis
- Design reduction/improvement strategies



Regulation

Green Line Regulation and amendments

White & Green Certificates

Italy has one of the most long-lasting schemes in EU, started in 2005 (WhC) refers to all sectors and energy efficiency solutions.

- In 2014 the Industrial Sector covered the 80% of the savings
- Flexible options: tradable market, bankability, non-obliged parties.



ISO 50001

Energy Management systems – Requirements with guidance for use

The standard expects that the organization carries out the monitoring, measurement and analysis of:

- Energy consumption and related actors
- Energetic Efficiency Index
- Validation of Retrofitting
- Real consumption vs. Expected consumption



Non Financial Statement

It follows the legislative decree 254. It follows GRI standard.

It is **mandatory** since 2017 for banks, assurances, companies with more than 500 employees or 20 millions of balance-sheet or 40 millions of turnover.

The increasing attention to **ESG** is supporting the development of tools that enables companies to reduce emission, consumption and certifying data in an objective manner

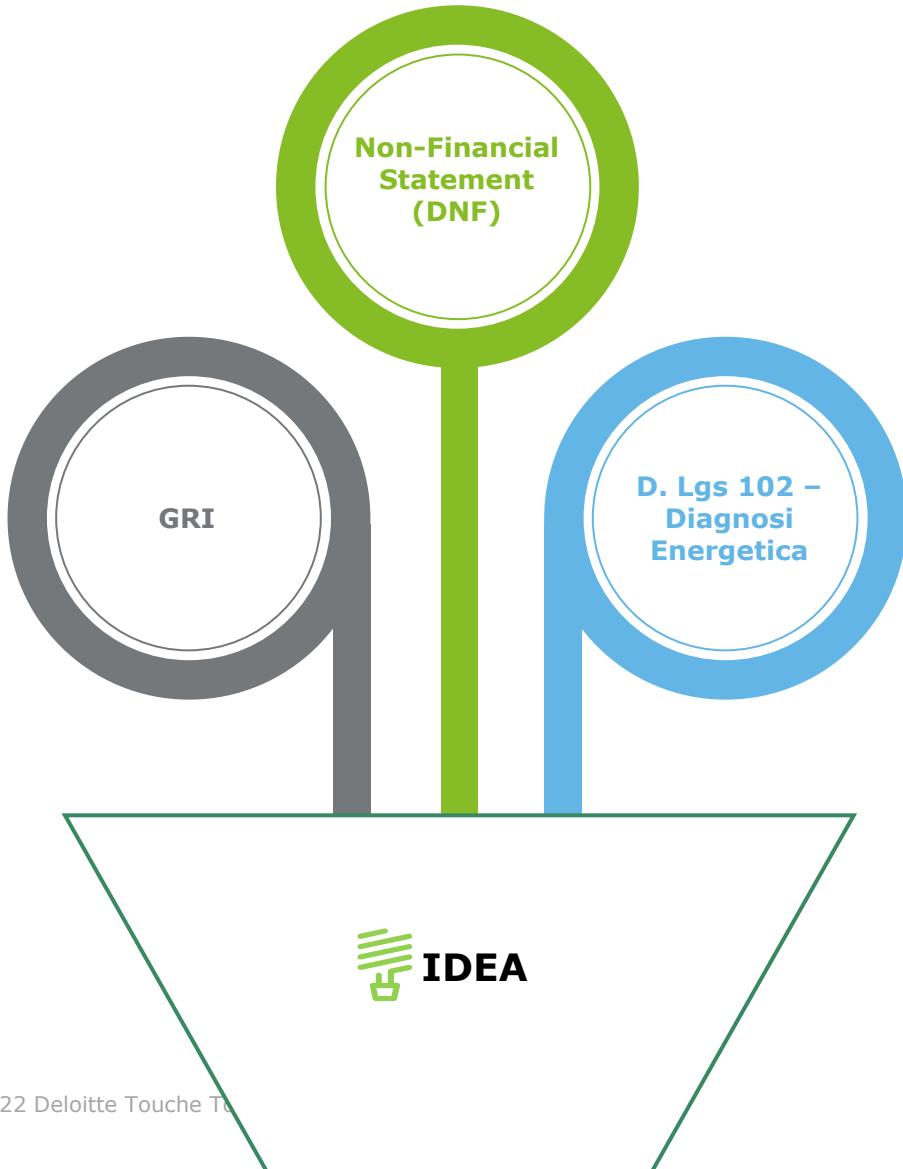
GRI

GRI sets out the reporting standards for:

- Materials
- Energy
- Water and Effluents
- Biodiversity
- Emissions – GHG emission measurement
- Effluents and waste
- Environmental compliance
- ...

Regulation

IDEA supports Regulation



IDEA Solutions:

- IDEA can **solve** the data research by **gathering** and **aggregating** data requested for the DNF preparation. Furthermore, IDEA can be easily configured in order to publish **indicators tailored** on **customers** needs. It can also perform industry benchmark and other metrics to define other parameters.
- IDEA has been developed in order to respect **GRI** report requirements for **energy** (consumption in joules, watt-hours or multiples, etc.). It can be **easily** configured in order to follow and **report other carriers** and consumptions (i.e. water).
- IDEA & Legislative Decree 102/2014:
 - Monitoring System – mandatory** for companies that are subjected to 102/2014
 - Gather and elaborate datas for the Energy Diagnosis** (energetic structure, energy consumption, IPA1, etc.)

Energy Carriers Efficiency

Market & Use Cases

IDEA

IDEA is a versatile tool for energy carriers optimization. Thanks to the cross-approach that characterized IDEA development, it can be deployed in **different sectors**

Data Center

Big data and supercomputer management will be the next **energetic alarm.**" "Ict sector could represent the **3,5%** of the **global emissions** by 2020 and the **14%** by the next 20 years." -Il Black out dei big data- *Corriere della Sera*

Manufacturing

"The **Energy Efficiency** Policy Recommendation of the International Energy Agency identifies potential savings of **ca.18.9 EJ/year** and **1.6 Gt CO₂/year** in industry by the year 2030. The consultation group "Smart Manufacturing" foresees a saving potential of **10-40%** at European level and highlights the importance of **ICT** (Information and Communication Technologies) as an **enabler for energy efficiency.**" - *Energy Management in manufacturing Toward eco-factories of the future* - *Reasearchgate*

Smart Building

"At the Los Angeles Community College District, an audit team identified **ten buildings** to be integrated into the Energy Management System. The projected **annual saving** using the EMS is **\$250,551 and 845,481 kWh.**" - *energy management system* - *sciencedirect*

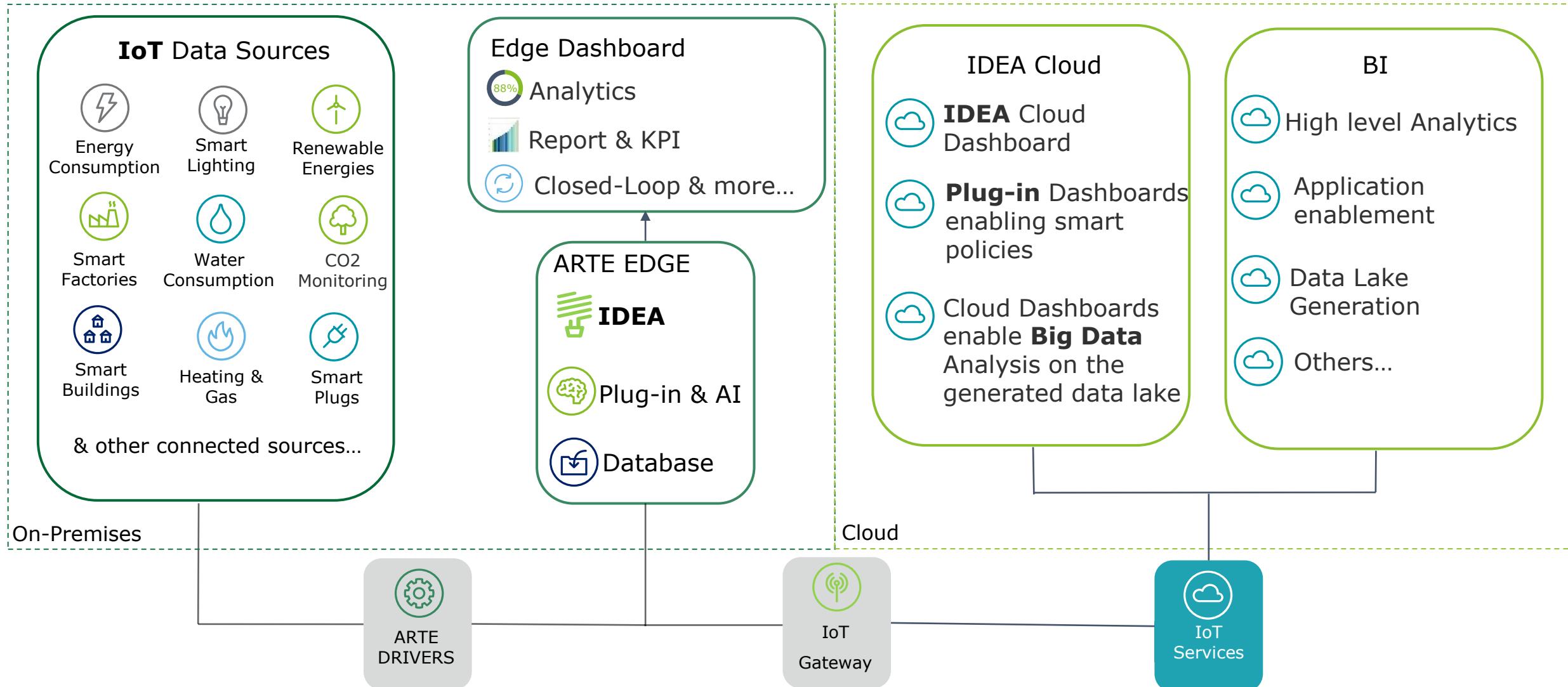
Smart Lightning & Air Conditioning

"**Smart** solid-state **lighting** in office buildings and industrial installations has the potential to **reduce** energy costs by **90 percent**" - *Gartner*

"the Silicon Valley-based company Enlighted, for example, claims to reduce clients' **lighting bills** by **60 to 70 percent** and their **air conditioning** bills by **20 to 30 percent**" - *what are cost savings from industrial IoT* - *Technative*

IDEA

Architecture Overview



Functionalities

IDEA Key Features



Multi Energy Carrier

IDEA allows to **monitor** a wide range of carriers, such as: natural gas, electricity, etc.



Multi Currency & Multi language

IDEA enables to define **multiple languages** and currencies



Cost Calendar

It is possible to define **different carrier costs** for each site, enabling **money management**



Enterprise Grade – Multi-site

IDEA can monitor and compare **multiple sites** in different locations



Fully Integrated with IoT Technologies

Integration with IoT technologies allows **easy connectivity** with major protocols



Alarm Management – Real-time notifications

IDEA can **alert** supervisors in case of **exceeding** configured **thresholds**



Fully Customizable

Thanks to its modular approach and formula-based calculations, IDEA can fit most client's requirements out of the box



Loop Closure – Real-time optimization

IDEA can be used to act **feedbacks** calculated **via smart algorithms** based on IDEA connected sensors



Multi Sector – Smart Factories, Smart Building, etc.

IDEA is a flexible tool that can **improve efficiency** both in **manufacturing** and other **facilities**

IDEA Dashboard

Data Visualization and KPIs



IDEA – Benefits

From monitoring to prediction



Centralized Operations

Collection, aggregation and standardization of monitoring data from distributed assets allows customers to increase availability, minimize unused power and preventively find issues.



Granular Control

The use of IoT technology allows to **increase the number of measuring point**, which combined with existing data can create a **detailed monitoring scenario**.



Real-time Decision making

A **tailor-made solution** based on historical and real-time data allows to proactively manage and operate on daily activities. **Connecting real-time IoT alarm data** with enterprise solutions permits to create new operational workflow.



Real-time optimization

As previously stated, it is possible to set rules in order to optimize the system in real time.



Predictive maintenance

Introducing IoT assets to create and aggregate a data lake is the starting point to **predict failures, apply ML algorithms and increase the life of the facility**.



Measure KPIs

Enabling to **measure industry key performance indexes**.

Contacts - Who should I reach out first?

Marco Gotelli

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RELEVANT EXPERIENCE

Marco is a Consultant at Deloitte IoT Italy. He is working on projects regarding the promotion and conceptualization of Deloitte IoT Assets.

He has a background in Mechanical Engineering - previously he worked on research projects in the defense industry at Fraunhofer Institut in Bonn-Germany, with a focus on VR/AR and human factors and after in the Inside Sales office of an automation company (Seastema- Fincantieri Group). Nowadays, he is attending a PhD in Mathematical Engineering and Simulation.

Massimo Nucera

Partner – mnucera@deloitte.it

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RELEVANT EXPERIENCE

Massimo was the head of the Global Discrete Manufacturing Delivery Center at Siemens, delivering MES\MOM projects for large clients across several industries.

Today Massimo is a director at the Deloitte SAP IoT SL, for which he is responsible for the projects delivery, asset development and commercialization. In his career Massimo led several Global initiatives for First Class Clients including Rolls-Royce, Siemens, Airbus, Danfoss, MagnetiMarelli, ZF, Federal Mogul.

Thank you!

P.S: If there are any topics you'd like to present during these calls, please feel free to reach out to me (Amrutha Sivaraman)