

Work Smarter, Secure Assets and Save Lives

ORP – Operations Resource Planning



Internet Of Things for

Safety

Security

Efficiency



SAP startup.focus.
Member

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Pioneering IOT



Dr. Severin Kezeu

Inventor & CEO of SK Solutions

Ph.D. Robotic

Computer Science Engineer

École Polytechnique, France

EXPERTISE: > 25-years Research and Development:
Robotic Engineering, Data Processing Electronic Services

DISRUPTIVE: IT/OT Technology Convergence,
Smart Solutions, Big Data, Innovation, Real-time Analytics, new Business Intelligence, Actionable Results

GLOBAL LEADER

of Predictive and Real-time Anti-Collision of Everything to work smarter, protect assets and save lives

1991: Winner 'Invention & Innovation'

France, Nationally Prestigious Award from Agence Nationale pour Innovation – ANVAR

Patented: US and Global patents

Key French Technology No.43

Adopted by: French Military



Business Services

Strategic Co-Innovation Partnerships

Our Vision



Mission:

Helping You to save lives, secure assets and work smarter by leveraging our market leading Anti-Collision of Everything software and contextual Operations Resource Planning (ORP) platform in a way that revolutionizes the industry

Objective:

Our Solution pioneers the Internet of Things (IOT) to monitor, control and report the geospatial and dynamic coordination of assets, people and material. It captures Big Data from Operational Resources using world-leading technology and analytics to provide automatic safety interventions and actionable results derived from previously unavailable business intelligence

Three Reasons why SK?



1	Safety	Saving Lives Anti-Collision, Automation Health HSE Risk Management Irrefutable Records Black box
2	Security	Anti Terrorism Auto-shutdown Anti Theft Loss control, Tracking Anti Trespass Access Control, CCTV
3	Efficiency	Manage Workforce Location monitoring Improve Uptime Asset tracking Expedite Progress Task, Time Lapse

Operational Context

ORP-Operations Resource Planning
Patent No.: US 9,466,038 B2 October 11, 2016

"SK Solutions has been quietly revolutionizing industries since the inception of its groundbreaking anti-collision system" - June 2014.

Value Propositions



We harness the power of the 'Internet of Things' to provide Real-Time Actionable Data that helps you to make SMART management decisions for the Safety, Security and Efficiency of your People, Assets and Projects

1 Saving Lives

Zero Accidents

2 Surveillance

Track People & Assets Minimise losses

3 Progress

Reduce Downtime

Cost Reduction
Up to 30%



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Three Things we do



1 Applications



**Asteroid Cloud© Intuitive
Middleware Secure & Stable
SAP Hana Scalable & Tested**

2 Hardware



**Visual Time Lapse, CCTV
Cognitive Sensors
Geo-spatial Connectivity**

3 Service



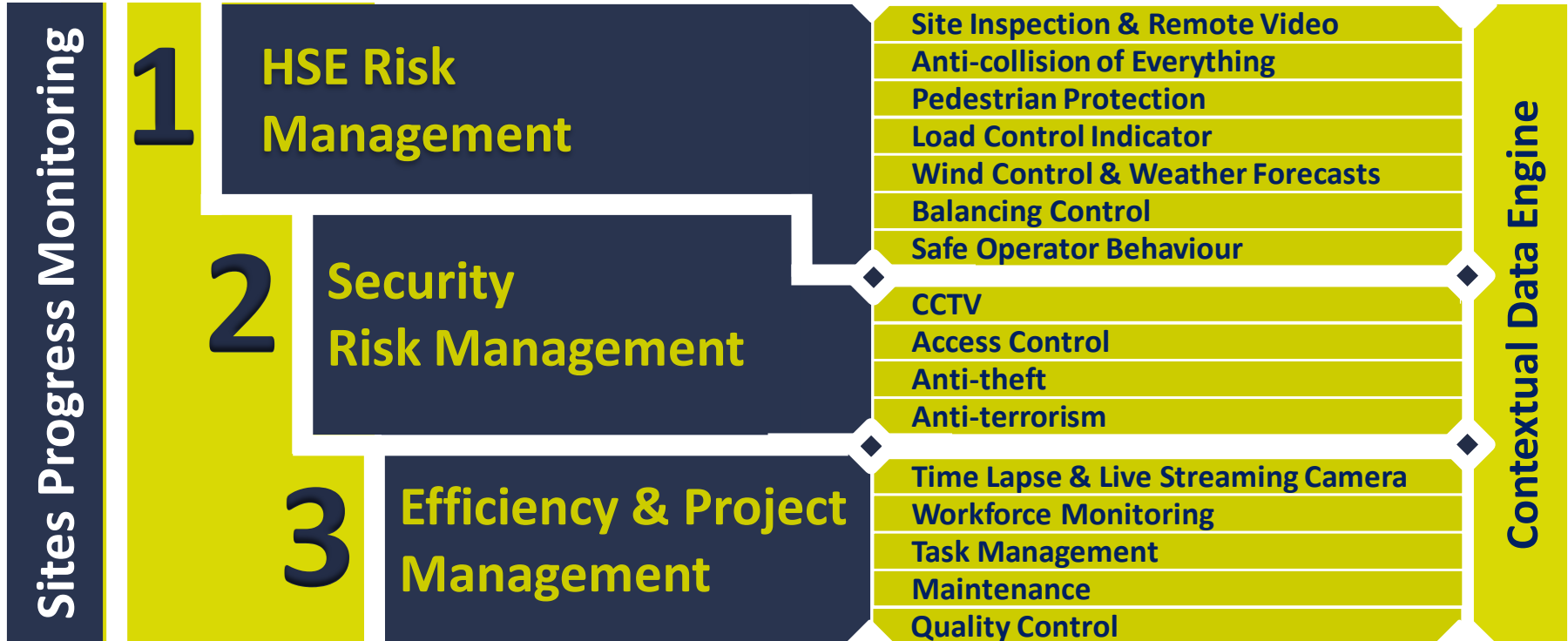
**Real Time Dashboard Report
Remote Management
24/7 Monitoring**

**Advanced Technology
Development**



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Asteroid Cloud



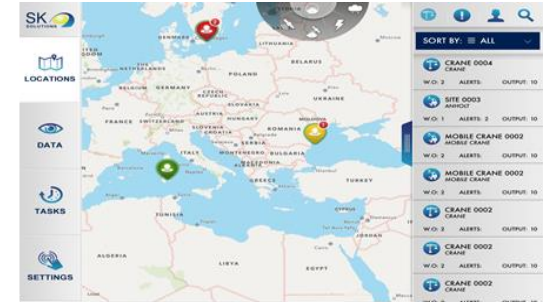
“SK Solutions has been quietly revolutionizing industries since the inception of its groundbreaking anti-collision system” – June 2014.

Asteroid Cloud

Digital Transformation Project



Digitization: People, Assets and Processes



Asteroid Cloud

Business Objectives



- While SK Solutions custom software platform had helped the company establish a leading position in its markets,
 - it lacked scalability and the advanced capabilities to integrate new data sources,
 - deliver real-time performance
 - and enable predictive analytics.
- This was crucial since the markets SK Solutions served were looking for a more powerful performance and productivity management tools

Asteroid Cloud

Why SAP?



After considering its options, SK Solutions decided to partner with SAP

- End-2-End building blocks
 - Robust real-time data platform
 - Rich and strong Edge processing capabilities
 - Analytics and Integration offering
- Possibility of Co-Innovation project
- Global reach

Asteroid Cloud

SAP Project Overview



Project Overview

Architecture

Contextual Data Engine

SAP Leonardo IoT Integration

**Predictive Anti-collision of
Everything (Video Demo)**

Business Benefits

Migrate from SK proprietary solution to SAP IoT Platform

Big Data

Sensors – IoT Connector

Data Streaming

Data Persistence and Synchronization

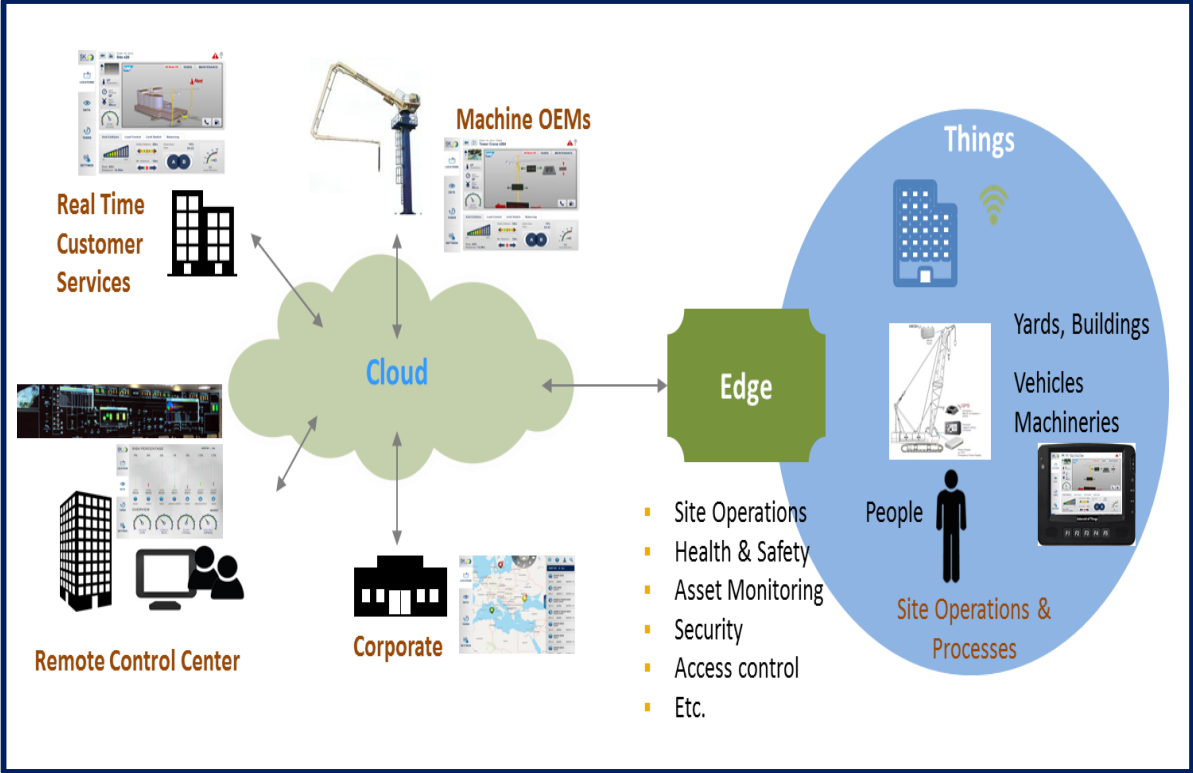
Real-Time Analytics

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SAP Project Overview



- Project Overview
- Architecture**
- Contextual Data Engine
- SAP Leonardo IoT Integration
- Predictive Anti-collision of Everything (Video Demo)
- Business Benefits



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SAP Project Overview



Project Overview

Architecture

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Business Benefits

Contextual Data Engine powered by SAP Leonardo IoT

The diagram illustrates the architecture of the Contextual Data Engine. On the left, a circular network diagram shows a central 'CDE Cloud' (yellow circle) connected to an 'Edge' layer (blue ring) and then to various 'Things' (small blue circles). On the right, a layered block diagram shows the platform components: a base layer 'Contextual Data Engine Powered by HANA' (dark blue), followed by 'Actions APIs' (green), 'Anti-collision' (orange), 'Safety & Security Risk Management' (light green), and 'Business Process Optimization' (light blue). To the right of these are two vertical bars representing 'Apps Store' (purple) and 'APIs Store' (dark purple).

Contextual Data Engine

The Platform

The Contextual Data Engine Network links each data to the operations context

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SAP Project Overview



Project Overview

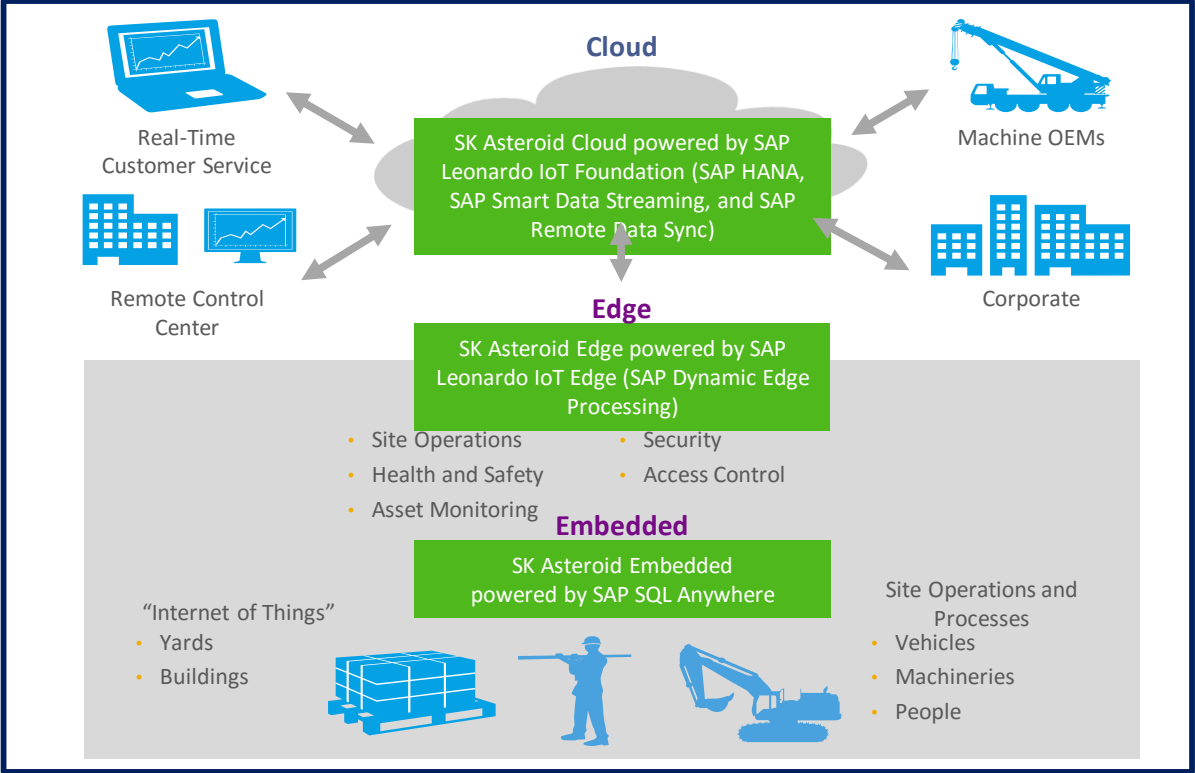
Architecture

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Business Benefits



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SAP Project Overview



Project Overview

Architecture

Contextual Data Engine

SAP Leonardo IoT Integration

Predictive Anti-collision of Everything (Video Demo)

Business Benefits

The integration of the SAP technology platforms has :

- Enhanced SK Solutions' ability to provide **accurate** and **timely** information to construction equipment operators, fleet managers and senior construction managers.
- Allowed SK Solutions to deliver a more robust anti-collision service that merges site operational data with business contextual data

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SAP Project Overview



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Predictive Anti-collision of Everything (Video Demo)

Business Benefits

IoT Deployment - The world biggest construction site

Real-time and Predictive Anti-collision of Everything to Save Lives



250 cranes
1200 vehicles
30,000 workers
Data size: \pm 2 TB/Month

Origin: Project Director
Sponsor: COO
Approval: CEO
Budget: \$ 6M

Achievement metrics

Safety

- 22 lives saved/month
- 300 accidents avoided

Maintenance

- 30% assets downtime reduction

Efficiency

- 20% uptime asset increase lifting operations

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SAP Project Overview



Project Overview

Architecture

Contextual Data Engine

IoT Connector

Predictive Anti-collision of Everything (Video Demo)

Business Benefits

Dubai Expo 2020 - Construction

**DUBAI
EXPO
2020**



90% of major projects

Powered by **AsteroidCloud**

30% Downtime reduction

950 lives saved / year

15,000 avoid injuries

Asteroid Cloud & SAP Leonardo, what's next?



With SAP Leonardo, expand the capabilities on the following

- Data ecosystem
 - Data pattern & behaviors
 - CDE expansion: Industry KPI Alignments or/and creation through the value chain
- Deeper insight for Predictive Analytics
 - Predictive Maintenance
 - Shadow costs
 - New set of KPI, Business Modeling
 - BIM Integration
- Better Project Management
 - Real-time task validation process
 - Insight through the value chain accessible to all stakeholders
 - Workforce Value added
- Reduce time to resolution (Dispute)
 - Site Progress Monitoring
 - Claims & Variation
 - Forensic

Contact Us



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SK Saudi Arabia

SK IT Solutions Cameroon

SK South Africa



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