Companies are looking for business oriented IoT solutions, that impacts in cost and efficiency, and move towards digital transformation

Is necessary to go beyond the IoT proofs of concept and deliver productive grade solutions, to get a proof of value. Four factors determine the success of IoT solution, a continuous **Business-oriented** development, **Expert** profiles and partners in the development, **Scalable** but real solution and using **Trusted** and production grade resources (BEST).

Ubiquitous acquisition

From home to industrial assets, and from OT environments to IT systems, is necessary link those heterogeneous cyber-physical systems and data structures, into a single trusted data source store.

Semantic Modelling

Homogenization of data, using a comprehensive semantic model to deploy data sharing and analytic models based on a common business definition aligned with the customer language.

Business Analytics

Apply to solutions, not only monitoring and data aggregation, search for customer specific business-oriented analytics, from advanced KPI or alerts, to predictive maintenance and pattern detection.

ERP Integration

The lack of ERP connectors to integrate bidirectionally field data and business flows, effectively. Applied to asset monitoring (home and industrial), to manufacturing IT/OT convergence.
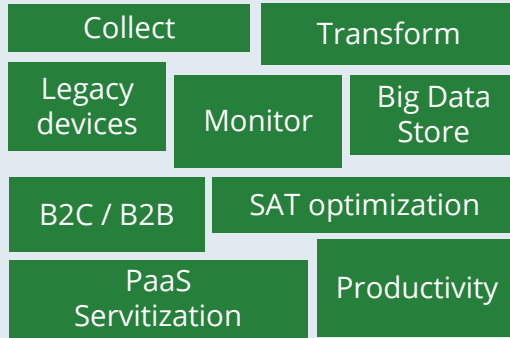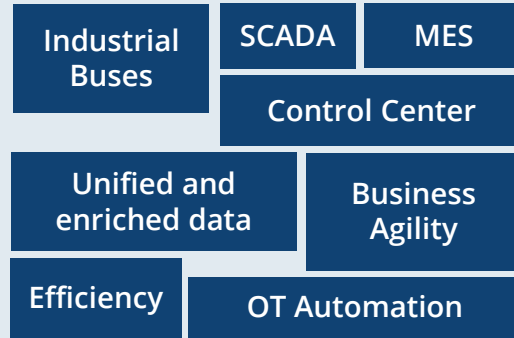
IoT Operation Services

Traditional IT management services requires a new approach to include in the service model, IoT and IIoT customer requirements to leverage their businesses.

Seidor IoT Center Solutions

IoT Asset Monitoring

- Collect
- Transform
- Legacy devices
- Monitor
- Big Data Store
- B2C / B2B
- SAT optimization
- PaaS Servitization
- Productivity

IIoT Solutions (IT/OT)

- Industrial Buses
- SCADA
- MES
- Control Center
- Unified and enriched data
- Business Agility
- Efficiency
- OT Automation

Replatforming

- C2C & P2P
- Applications
- Standarization
- New Services
- Public Cloud
- Enhanced Security
- Managed Services
- Scalability
- ROI

Business oriented **E**xpert profiles

IoT center
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Scalable solutions **T**rusted resources

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IoT Asset Monitoring

IIoT Solutions (IT/OT)

Replatforming

HOME APPLIANCES

INDUSTRIAL MACHINNERY

AGRO INDUSTRY

TRACKING

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IoT Asset Monitoring Challenges

Device connectivity

Which connectivity technology we need?

We provide **connectivity advising** and **professional partnership** with vendors.

Cloud Solution is **connectivity agnostic**, based in hardware abstraction layers and using a **semantic library** for labelling.

End to end Security

Are my devices or cloud solution at risk?

At device level we recommend to use the most advanced secure solutions (e.g. MQTT-TLS), with **secure elements and single certificates**.

Azure platform security monitoring is in the front line to work with those requirements and manage all the cloud security requirements.

Business Model

Servitization, is not necessary for us

IoT Monitoring opens the door to servitization, move from a CAPEX to an OPEX model is in some cases **necessary to support the continuous changes** in the market.

Create a **partnership with customers** instead of a buy-sell contract.

Solution Cost ROI

The Cloud solution is too expensive.

The answer is no, when you **focus the solution to the business** ROI and not only cool dashboards.

Classical IT cloud business tools could be expensive obviously, **serverless IoT** functionalities from Azure, creates a **scalable cost model** suitable for any solution.
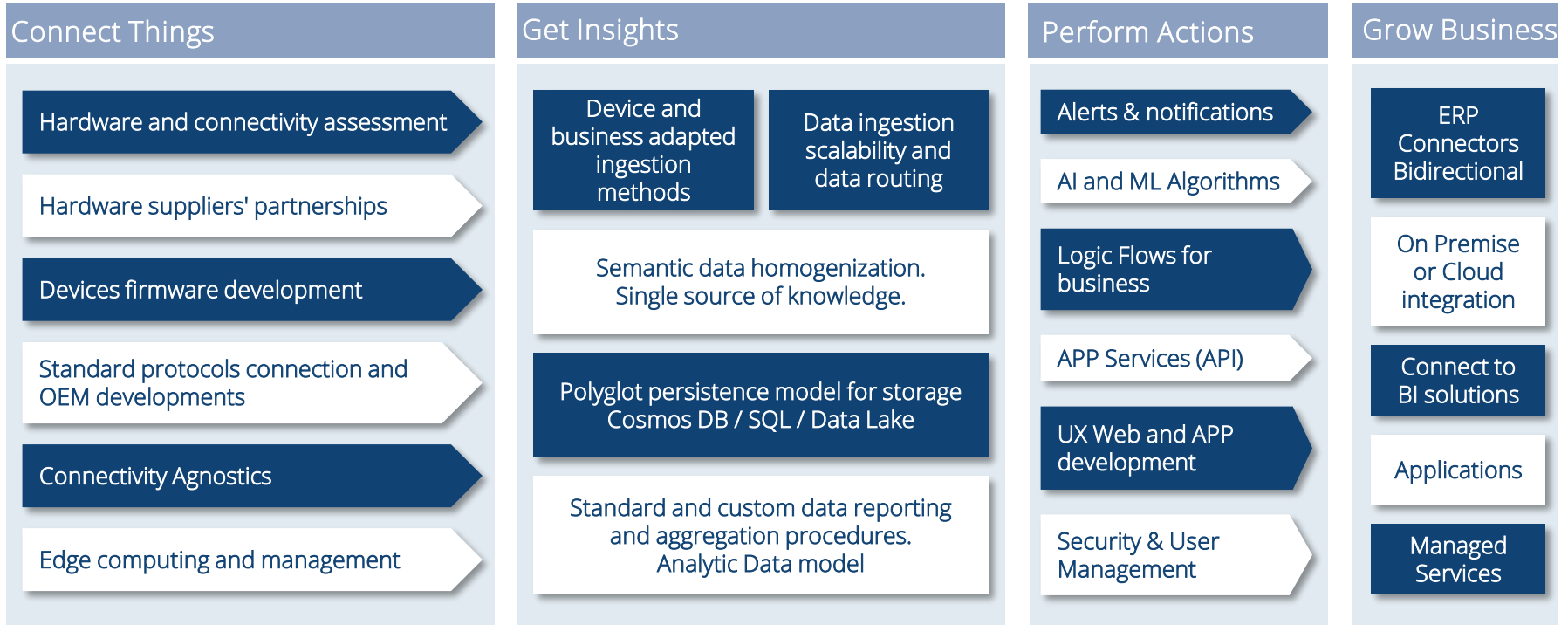
Customer Service

How can we manage the IoT incidents ?

This new operation model and business opportunities, need to be **backed with services**, to ensure a smoothly operation.

IoT Center offer those services from **call center, ticketing or device management**.

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IoT Center capabilities

Connect Things

Hardware and connectivity assessment

Hardware suppliers' partnerships

Devices firmware development

Standard protocols connection and OEM developments

Connectivity Agnostics

Edge computing and management

Get Insights

Device and business adapted ingestion methods

Data ingestion scalability and data routing

Semantic data homogenization. Single source of knowledge.

Polyglot persistence model for storage Cosmos DB / SQL / Data Lake

Standard and custom data reporting and aggregation procedures. Analytic Data model

Perform Actions

Alerts & notifications

AI and ML Algorithms

Logic Flows for business

APP Services (API)

UX Web and APP development

Security & User Management

Grow Business

ERP Connectors Bidirectional

On Premise or Cloud integration

Connect to BI solutions

Applications

Managed Services

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Girbau – Sapphire Laundry Management

GIRBAU
sapphire
Laundry Management & Connectivity

Girbau starts the transformation of its business model, to a "laundry machinery as a service". Seidor IoT Center solution allows Girbau to create a real solution that scales up with the business. consolidated with the IoT insights they get. This real production deployment over Azure, scales as their business grow and creates the foundation to the service business model.

CHALLENGES

Connectivity

☑ Legacy M2M protocol integration

☑ MQTT Connectivity firmware

Reporting

☑ B2B reporting and machine monitor

☑ API Services set for multiplatform

☑ Machine Status and detailed cycles

Analytics

☑ Automatic cycle status detection

☑ Disinfection cycle analysis

OPPORTUNITIES

"The current sensor technology to control each machine cycle with the help of Microsoft Azure IoT, allow us to get the maximum performance of our solutions"

"Applying reports to specific industry verticals, like disinfection certification, allow us to win supply contracts over competitors, thanks to the advantage created by IoT and Microsoft cloud"

[Girbau - Microsoft News](#)

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Public Space Management

Smart Sanitary*

Global public and private rest rooms equipment manufacturer, relies on Seidor IoT Center to create a global single IoT monitoring platform, with a complete product offering, to create the future toilet experience.

With private usage products like smart toilets, but with a strong focus on public spaces, to leverage the IoT data from the devices to optimize and increase the efficiency in public infrastructure management.

*Company Name protected by NDA

CHALLENGES

Connectivity

☑ Bluetooth Gateway development

☑ Complete protocol definition

☑ Multi brand protocol integration

Reporting

☑ Cross semantic data harmonization in a multi protocol / brand system

☑ Drill down and advanced multi level reporting and aggregations

☑ API Services set for multiplatform and external services

Security

☑ Individual leaf certificate-based communication with Azure IoT Hub

OPPORTUNITIES

Market needs based on usage

Cleaning services optimization

Water consumption efficiency

Bulk remote maintenance

NPL and quality insights

Hygiene certifications

Link to Smart BMS systems

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IoT Asset
Monitoring

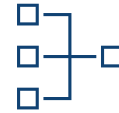IIoT Solutions
(IT/OT)

Replatforming

SMART FIELD SENSORS

OT INDUSTRIAL
NETWORKING

CONNECTIVITY GATEWAYS
AND EDGE COMPUTING

IT/OT CONVERGENCE

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IIoT (IT / OT) Challenges

Complexity

Integrate both worlds is too complex.

Full integration IT/OT is a process, start in one layers and make it visible to the full business is something easy to start.

Hardware, applications and cloud from IoT Center and Azure offers an **adapted scalable solution**.

Plant Security

What about to expose my plant data?

Currently we work with countless devices and applications through internet. Some secure and some not. The tools to make them secure are there, and applying **network supervision, SIEM, Firewalls, Crypted VPN and Cloud Monitoring** best practices, the privacy is fully guaranteed.

OEE Benefits

How this will help me to be more effective?

This convergence, seeks to **leverage the hidden data**, that sometimes, top management software layers don't use.

Integration of sensor, PLC tags, or SCADA information in advanced analytics **increases OEE** and operations visibility.

Optimization

This will reduce my operation costs?

The usage of new data allows to create **new analytics** (standard or AI), and reveal patterns and behaviours. This have a direct impact on **reducing unexpected production stops** (by predictive analytics) and be **more agile in the order re-scheduling** using already learned patterns.

Reliability

24/7 operation, will be affected?

No, the solution is developed to work **totally in parallel** without any impact on the current OT or IT systems.

Also the surrounding **managed services**, ensures the correct operation of the converged IT/OT solution.

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IIoT (IT / OT) – Connecting to ERP

INDUSTRIAL SECTORS

Discrete Manufacturing

Process Manufacturing

Pharma & Chemical

Food and Beverages

Metal

Energy

- Machine KPI integration
- Production BOM visibility
- Predicted cycle maintenance
- Maintenance / Failure events
- Real Production Times
- Plant Cycles information
- Supply chain events and track
- Smart Production Scheduling
- Integrated Market insights

ERP ECOSYSTEM

SAP

SAP Business One

Microsoft Dynamics

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Processing Plants

Fruit Process*

A multi-plant production that see an opportunity to optimize the operations in each individual and the whole business, by creating a single OT data store for all the plants, and from that point and to be able to analyse and share the information to individual control rooms, global business dashboard and create new maintenance and efficiency models aligned with the business needs.

*Company Name protected by NDA

CHALLENGES

OT Automation & Connectivity

☑ Multi-brand complete non-invasive OT infrastructure (Siemens/Koyo/Omron)

☑ OT / IT secure networking by layers for data sharing (Firewalls, SIEM, VPN)

☑ Secure Edge Gateways to connect support systems

Data Store

☑ Single corporate OT / IT data stores and backup resources

☑ Complete semantics data homogenization

☑ Connection to BI solution and SAP

Analtics

☑ Production Scheduling analytics.

☑ PLC data applied analytics for trends and predictive.

OPPORTUNITIES

Local Control Center Rooms

Unified multiplant dashboard

Business Data Visibility

Predictive Maintenance stops

Opportunities for OEE increase

Cross data with Aux. Systems

Order Rescheduling agility

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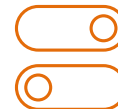
IoT Asset Monitoring

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Replatforming

CLOUD 2 CLOUD
PLATFORM 2 PLATFORM

SYSTEM AND
SERVICES SCALABILITY

LEGACY DEVICES
REALLOCATION

RESOURCES &
APPLICATIONS MIGRATION

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Replatforming challenges

Cloud 2 Cloud Interoperability

Can we make a progressive migration?

API services, database replica, VPN connections are some of the options we can use to **access legacy platform** and start collecting data to prepare the **new platform infrastructure** and data models.

Data model rebuild

Can we maintain the same data structures ?

Of course we can **clone the same data** structures from the legacy platform. Take in consideration that replatforming is a great opportunity to review data structure and c**reate new data models** that can leverage the data and open new business lines.

Devices migration

How to manage the migration of devices ?

Each replatforming project needs a complete **assessment of legacy devices** situation and understand their upgrade capabilities.

All the devices need to be onboarded on the new platform and is also a good opportunity to **review their security**.

Applications Resources

How my users will be impacted ?

Applications can be placed on containers or rebuild, user directories moved to Azure AD solutions and any Web service integrated in the Azure resource portfolio. **Multi environment deploy** to QA the solution before turn on new platform and make a **complete user transparent migration**.
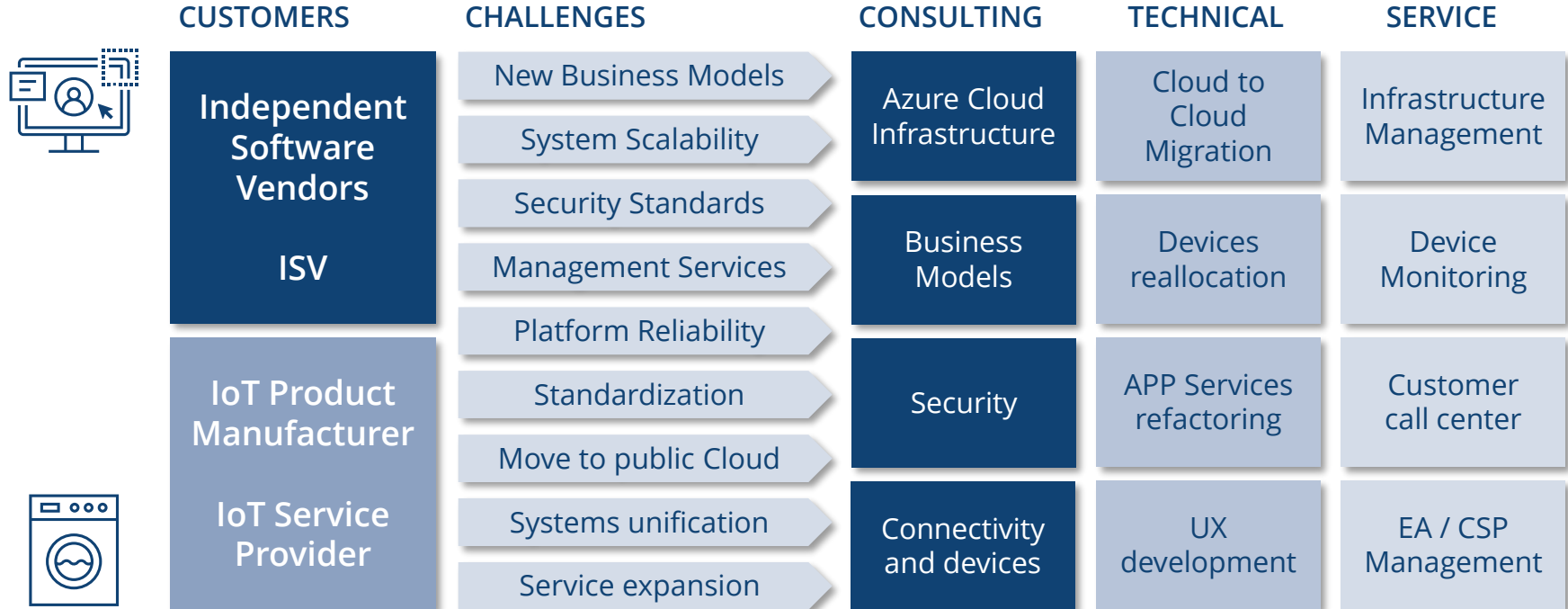
Additional Services

How can we manage the new platform?

Of course a replatforming, requires a learning path to manage the new infrastructure. Seidor offers a **complete managed service catalogue** and **training services** to solution managers, from **devices to infrastructure**.

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Business cases

IoT Center + Seidor Capabilities

CUSTOMERS	CHALLENGES	CONSULTING	TECHNICAL	SERVICE
Independent Software Vendors **ISV**	New Business Models	Azure Cloud Infrastructure	Cloud to Cloud Migration	Infrastructure Management
	System Scalability			
	Security Standards	Business Models	Devices reallocation	Device Monitoring
	Management Services			
	Platform Reliability			
IoT Product Manufacturer **IoT Service Provider**	Standardization	Security	APP Services refactoring	Customer call center
	Move to public Cloud			
	Systems unification	Connectivity and devices	UX development	EA / CSP Management
	Service expansion			

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SAT Platform – Healthcare machines

Health Devices*

A medical devices company, that have their own IoT data platform, based on offline data collection, that offers a limited set of services to their technical services. They have 2 goals, one is to **consolidate the platform** in a public cloud to bring more scalability and reliability, and the other is to **expand the services**, by applying AI to their data and move forward to predictive maintenance.

*Company Name protected by NDA

CHALLENGES

- ☑ Legacy On Premise platform
- ☑ Unstructured SQL data model
- ☑ Limited Web services built over Laravel
- ☑ Local LDAP User directory
- ☑ Machine reportings

- ☑ Scalable platform on Azure Cloud
- ☑ New star data model analytics ready
- ☑ Rebuild Web services based with React
- ☑ Azure Active Directory complete corporate
- ☑ Advanced Reportings with Power BI

OPPORTUNITIES

24/7 Connected Machines

Servitization

New B2C business model

Predictive Maintenance

Technical Service integration

Smart Services for Distributors

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IoT Asset Monitoring

IIoT Solutions (IT/OT)

Replatforming

Seidor IoT Center values

IoT Center – Main Values

Assets Availability

Pre-designed solutions in IoT and Artificial Intelligence, that helps to speed up Project delivery and get visible results.

IoT / AI Experience

Proven experience and deveolpment capabilitites in IoT and AI projects, to add knowledge in high added value opportunities.

Business Focus

We understand the technology as an effective support tool to achieve the business goals and generate revenue to our costumers.

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Microsoft Azure Partership

Seidor IoT Center Solution, partnered with Microsoft Azure to offer from pre-configured IoT solutions to fully customized enterprise developments.

☑ **Extended** resource and service offer, for agile development and unlimited **scalability**

☑ **Pre-configured and custom** development solutions to adapt to customer needs

☑ **Most powerful Premium Global** platform, up to 60Tb of memory and 20Tb per node

☑ **Continuous evolution,** innovation and new solutions integration

☑ **Single solution source**, from traditional IT solutions to advanced AI

☑ **Maximum security and privacy** levels in the backbone (GDPR, Crypted comm.)

☑ **Governance and monitoring** tools for service optimization

☑ **Expert premium support**

IoT Center Expertise

Several successful experiences implementing IoT solutions with bricks philosophy in different industry sectors and business cases

Multi Level Experience

PoC
Pilot
Productive

Cross sectors

Industry
Appliances
Agro
Health
Education

End to end

IoT Hardware
Firmware
Cloud
Analytics / AI
Applications

from 2017

+20
IoT Developments

Laundry Machinery
HVAC Systems
Home appliances
Environmental Sensors
Ventilation Systems
Industrial Machines

Gateway Assessment
Connectivity Firmware
Cloud Data trasnformation
Analytics and reporting
Web development
Mobile APPs

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