Fujitsu Value Proposition for Manufacturing Industry

#EnablingDigital with Fujitsu Connected Enterprise
Business Challenges

Manufacturing Operations

- Improved Sales & Operations
- Delivery
- Reduced Inventory
- Traceability
- Reduced Lead-time
- Minimized production downtime
- Automation
- Cost / Sourcing control
- Workforce safety
- Increased partner collaboration

- Differentiation / Shorten Time-to-Market
- Transform / expand Product to Service
- New Sales Channels / B2B and B2C
- Brand
- Extended revenue stream
- Preventive maintenance
- Control of Installed Base
- Shorter Time to Market
- Optimize outbound delivery
- Minimized production downtime
- Automation
- Workforce safety
- Increased partner collaboration
What is your disruptive vision?

- Design your digital workforce
- Design your value in a Digital Arena
- Design the alignment of your value with a shared value of society
Fujitsu Limited and Fujitsu Kyushu Systems Limited today announced the establishment of a new company, **Fujitsu Greenhouse Technology Finland Oy**, to operate a plant factory equipped with an agricultural Information and Communication Technology (ICT) system, and to produce and sell agricultural products. The new company, jointly financed by Robbe's Little Garden Ltd, commenced operations on November 17.

**Fujitsu Greenhouse Technology Finland**, which will begin full-scale production in the first half of fiscal 2017, uses a plant factory equipped with the latest technologies, including the **FUJITSU Intelligent Society Solution "Akisai" Food and Agriculture Cloud**, along with fully artificial lighting using LEDs, multi-tier growing trays, and full automation.
Outcomes of digital transformation

- Growth delivered by digital
- Every business is becoming a technology company

- 46% Increased revenue
- 36% Strengthened competitiveness of products
- 30% Transformed business models or processes
- 35% Improved efficiency or reduced cost
- 22% Improved employee satisfaction
- 44% Improved customer relationships
- 35% Strengthened competitiveness of products
Comprehensive Framework for Digital Transformation

- Platform delivering digital technology as a service
- Connect existing business with digital business
Industry initiatives

Industrial IoT Solutions

Applications

IoT Platform

Cloud, Infrastructure, Networks

Wearables, Devices, Sensors

IoT Ecosystem

Industrie 4.0 – factory creates value
Industrial Internet Consortium – data creates value
Industrial Value Chain Initiative – human knowledge creates value
Connected Application Services for Manufacturing sector

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**Security**
- Connected Enterprise
- Industrial IoT & Industry 4.0 solutions
- Intelligent Dashboard
- Engineering Cloud
- Glovia ERP

**Transformation**
- Process Automation
- RunMyProcess
- SalesForce ServiceNow
- AR & Wearables
- IOT: GlobeRanger & EPP
- RPA
- Artificial Intelligence
- Analytics & Big Data
- Application Modernization
- Application Development & Integration Services

**Productivity**
- Mastering Productivity
- Enterprise Content Management
- Fujitsu Enterprise Postgres DB
- Case & Doc Mgmt

**De-risking**
- Consolidation & Cloud Services for Oracle, SAP, MS
- Digital Performance Management

**Fujitsu companies**
- Fujitsu
- RunMyProcess
- GlobeRanger
- UshareSoft

**Partners**
- ServiceNow
- Microsoft
- SAP
- Oracle
Digital Transformation: “The Connected Enterprise”

- Leverages the convergence of **Information Technology** and **Operational Technology** to enable smart, connected operations and significantly improve operations effectiveness and reduce operating cost.
IT & OT seamlessly working together

The seamless integration between Information Technology & Operational Technology is the key for successful Connected Enterprise implementation.

- IT
  - Query Based
  - Data at Rest
  - Non-real time

- OT
  - Event Based
  - Data in Motion
  - Real Time

IoT World Forum Reference Model

① Physical Devices & Controllers
② Connectivity
③ Edge Computing
④ Data Accumulation
⑤ Data Abstraction
⑥ Application
⑦ Collaboration & Processes
The Fujitsu Connected Enterprise

Operational Effectiveness
Asset Reliability

O&M Cost
Operational Risk

Preconfigured connectivity

Connected Workers
Simplified Work Management
Health & Safety
Quality Inspection & Control

Connected Assets
Asset Tracking & Visibility
Predictive Maintenance and Service

Connected Manufacturing
Industrial Operational Excellence
Manufacturing Analytics & Performance Management

FJ Business Process Platform

FJ Edgeware IoT Platform
FJ Event Processing Platform
FJ Ubiquitousware
3rd party M2M
IT Systems

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Increasing operational excellence and competitive advantage

Connecting assets:
Connecting assets to deliver accurate and timely information that enables better decision making.

Connected Intelligence:
Large quantities of information enable new insights that extend the life of the asset and reduce the total cost of ownership.

Connected Workforce:
Providing the workforce the means to access the information they need to be more effective.
What does it mean for Manufacturing Operations?

Business Networks (Aka, AIN) and System of Records
- ERP
- EAM
- SCM
- QM
- CRM

Transforming your manufacturing operations and asset management for better business outcomes
When subcontractors enter a restricted area, the security staff gets a message.

Monitor and report on environmental conditions: temperature, humidity, noise, lightning,...

Automated recording of associated location-based and time-stamped events.

Geofencing zones and proximity zones.

Asset & People tracking/monitoring & management.

Remote equipment management: monitors and records actions, remotely authorizes and controls usage.

Customers and visiting employees, when certain conditions are met, receive useful information when they enter “points of interest.”

Connecting physical world events from “people and assets” to business processes.

“Smart Building”
Example of after sales process digitization

Objective: Process orchestration of the marketing, order fulfilment, scheduling and install service

- Identify target customers for sales campaign
- Present a shopping catalogue for individual customer
- Identify slots for install and auto despatch engineer based on stock levels and geo
- View job lists and install on customer base
- Evaluate success of campaign and abandoned baskets etc
- View stats on installed sensors in real time and raise events automatically on failure
Chinese government set forth ‘Made in China 2025’, which aims to combine cutting-edge ICT with manufacturing.

INESA is pioneering next-generation information technology and smart manufacturing to promote development and competitive advantage.
Inesa Group: IoT improved productivity by 25% (2)

- Jointly established a ‘Smart Manufacturing Demonstration Factory’ with using IoT technology, Big Data platform, and **Intelligent Dashboard**
- Revealed a 25% rise in productivity and a 50% reduction in manufacturing process time
TOMOE Corporation (1)

- Developed an assembly inspection system combining AR technology and existing 3D CAD
- Achieved taking only 2 – 3 minutes for inspection, which is about 10% of the time reduction as well as eliminating human errors
TOMOE: Efficient inspection by AR technology (2)

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Connected Asset: Real-Time Supply Chain Visibility

Up to 80% inventory write-off reduction by end of 2018

30% reduction in 2016

Average seek time for critical components is down from 2 days to 1 hour
Real time visibility into the velocity of the manufacturing process

Full electronic accountability of raw material life cycle
Proactive Maintenance with Augmented Reality

Replaced paper and manual processes which were quickly outdated or required extensive training.

Operators can work more quickly and accurately with real-time onsite access to data and central support.
Finished goods handling from manufacture through cold storage & shipping: improved shipping accuracy

Truck loading time reduced from 60 minutes to 20 minutes
This ground-breaking system uses the Cloud IoT service to obtain water analysis results in real-time, enabling Optex to create new data-driven services for its industrial customers.

Platform utilized for trials, in China, collecting data from mobile water quality measurement sensors

- Full production solution now offered to Optex customers

Platform enables:

- Stable processing of ‘Big Data’ in real time
- Applications for using IoT

Optex manufactures world-class sensing equipment in the fields of automatic doors, security and measurement, among others
Nordic monitoring and control of projects

- Fujitsu has delivered applications for project management since 1994, for the NCC Corporation.
- Today, NCC uses C7 in Sweden, Norway, Finland and Denmark.

Advantages and benefits NCC achieved
- Consistent approach
- Reduced administration
- Monitoring and control of projects
- Information management and benchmarking
Getting started - on Digital Journey

**Executive Workshop**
- Focussed session – up to 2 hours
- Interventions - e.g. trends, art of the possible, threats & opportunities
- Outcome – common understanding, sponsorship & agreed priorities

**Digital Innovation Session**
- In-depth session – up to half a day
- Interventions – e.g. facilitated discussion, demonstrations, concept jam
- Outcome – identified opportunities for solutions

**Digital Vision and Roadmap**
- Develop consistent strategy for digital – up to 4 weeks
- Interventions – e.g. visioning workshop, road-mapping
- Outcome – agreed approach, outcomes, initiatives and milestones

**Proof of Concept and Value**
- Real-life application of digital – up to 3 months
- Interventions – e.g. day in the life, hackathon, agile solutions integration
- Outcome – business case for the solution

"Think big, start small; learn fast and scale quickly"
Why Fujitsu?

- Framework and method to help customers drive yield from the Digital Transformation
- Lean tools help our customers rethink current supply chain and reduce costs and risks
- Innovation driven company with smart solutions like GlobeRanger, RunMyProcess and UBIQUITOUSWARE
- End-to-end service – from business process to applications and infrastructure layer, such as MetaArc – Digital Business Platform
- Fujitsu being a long term global partner with strong Nordic presence
- Fujitsu is also Manufacturer

Transforming your manufacturing operations and asset management for better business outcomes
Additional material

Make Industrial IoT happen with Fujitsu Connected Enterprise

https://www.youtube.com/watch?v=XX-Bq7knB6U

RFID based MES/WIP demo

https://www.youtube.com/watch?v=fBDZ5mN_qMk

Fujitsu Virtual Factory

https://www.youtube.com/watch?v=V8obz0sILKE#t=62

Warehouse tracking

https://vzaar.com/videos/7299544

The Workplace of the future, created with Augmented Reality

https://www.youtube.com/watch?v=RqapCs2JcGD&list=PLv3dNrfbuNATBt75hh13qm7Lqj21zk7_Y

Intelligèn Dashboard

https://www.youtube.com/watch?v=01AlJGuJ8_s

Fujitsu’s Integrated End-to-End IoT Solutions Gain Momentum


More information: Reijo Sihvonen, +358 400 433 407, reijo.sihvonen@fi.fujitsu.com