



Horizon2020 Information Days on Public-Private Partnerships

Brokerage event
16 October 2015

TOTAL WATER MANAGEMENT IN PRODUCTION OPERATIONS

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LIT

ACTIVE LEADERSHIP IN
EDUCATION, ENTERPRISE
AND ENGAGEMENT

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Co-ordinator – **TEMPO** (Total Energy Management for Production Operations)

- Three Year Industry Driven Project on Energy Efficiency and water usage in production.
- Collaboration of 20 Researchers, Staff and Postgrads.
- Requirements set by Industry Stakeholders - Intel, DePuy, GlaxoSmithKlein, Analog Devices, Vistakon, EMC and Carberry.
- Industrial Use Cases in the Medical Devices Sector (DePuy Synthes, Stryker) and in Precision Engineering SMEs (Takumi, Croom, Mann)
- **Systems are not optimised to effectively monitor water consumption in production operations.**



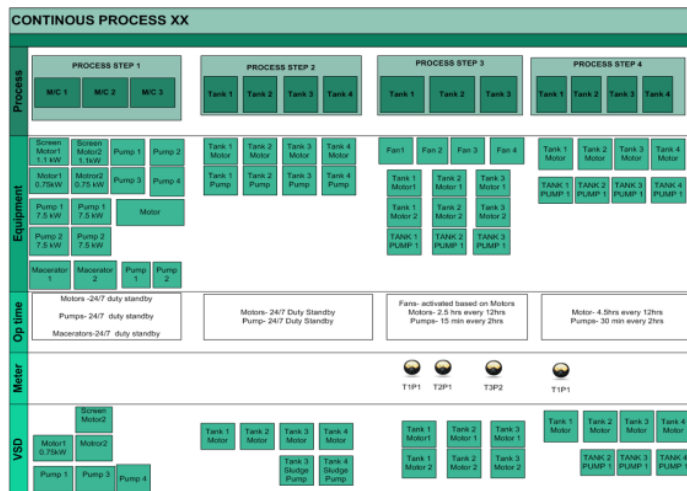
- TEMPO is a Proof-of-Concept Research Project Based on
- **Matching the Consumption to the Activity**
- TEMPO is a **LENS**
 - Can focus on a specific Asset
 - Can focus on a Production Line
 - Can focus on an Energy Carrier
 - Can focus on a Technical Service (Air, Water)
- Grounded on Principles of **LEAN** Manufacturing
- Product Centred View / Value Stream Mapping



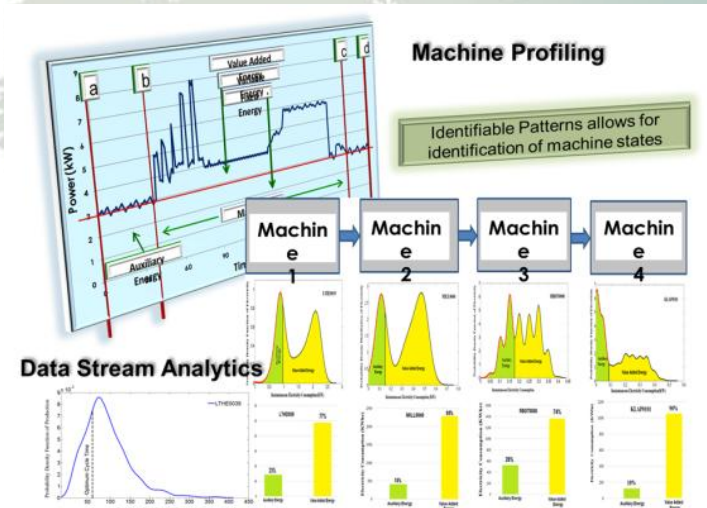
Industry Need - MNCs

- A Monitoring & Targeting (M&T) Strategy with as little sub-metering as possible
- Allocate the actual cost of water consumption to the value streams.
- Develop suitable KPIs and Visualisations to manage water consumption.
- Continuously leverage production personnel to drive cost reduction and water improvements

Client Input Tool, Value Stream Based analysis of production and water flows



Modeling Tool, Machine profiling, waste analysis,

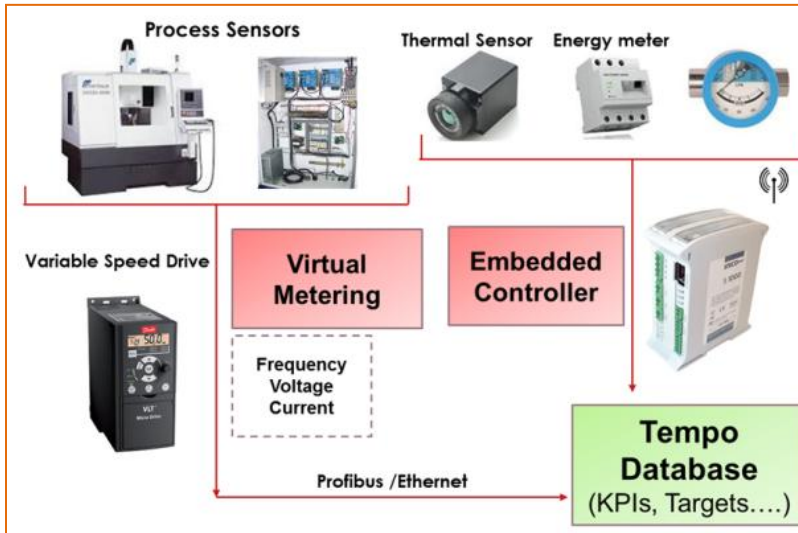


Industry Need - SMEs

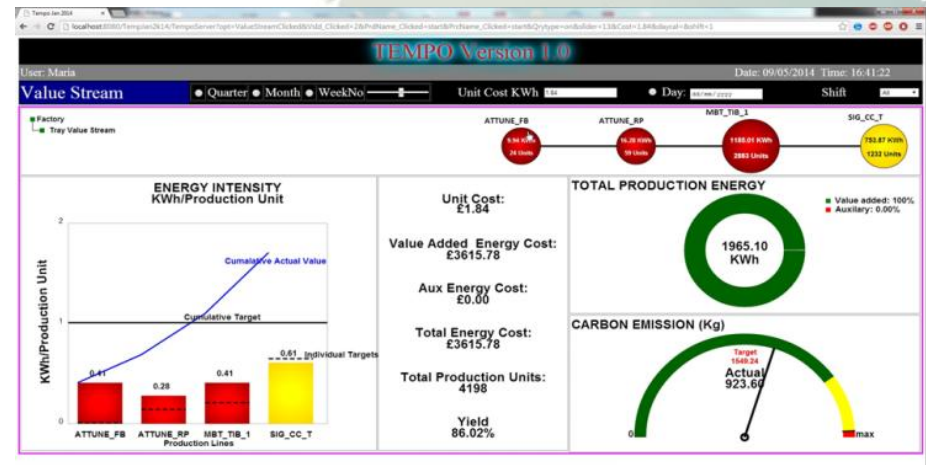


- Limited internal resources to focus on water, Legacy systems.
- Increased competitiveness from analysis of specific water cost of different production operations.
- Improved production planning from live water/Energy/Machine data.

Smart Water Network,
Drivers/adapters for integrating with
standard industrial systems,



Water Flows and Metrics
Visualisation, selectable to drill down
from Factory to process step



Key Value Propositions



TEMPO Methodology & Software

- Identifies Significant Water Users (SWUs) in Production and quantifies opportunities for cost reduction
- Drives reductions in water consumption through Value Stream (VS) process improvements
- Reduces the cost of metering through use of existing data, systems and models
- Avoids the cost of future increases in consumption through ongoing water management and water KPIs (EnPis)
- Provides accurate water costing for production runs
- Validates the savings of water consumption reduction projects.

LOOKING FOR PARTNERS

- Tested Methodology and Software tools for tracking water consumption in production.
- Expert research group in control systems, metering, industrial automation and energy/water consumption in industry
- Industry partners available in many domains from Multinationals to SMEs as use cases / demo sites for European projects.
- International partners in Industry and Research across Europe.

- Looking for further demo sites for our software tools.
- Looking to provide expertise on water conservation and energy efficiency in production to other consortia.

CONTACT DETAILS



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