

Unlocking Intelligence in the Grid of Things; Drivers for the 3rd industrial Revolution

5th Annual Smart Grids & CleanPower 2013 Conference

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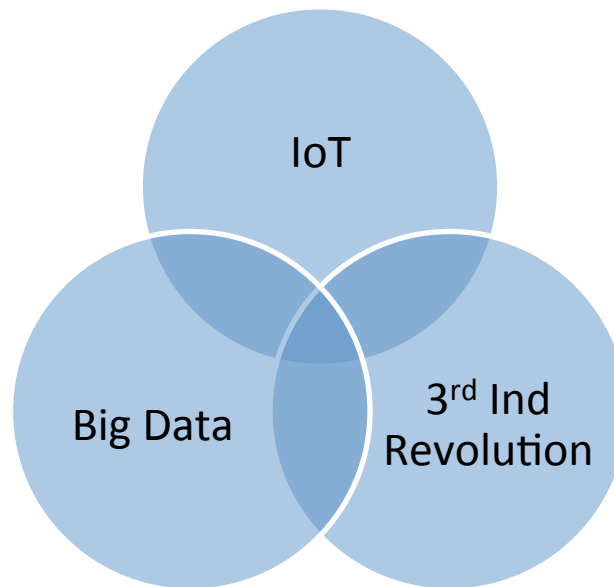
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www.cir-strategy.com/events/cleanpower

Title & Summary

Unlocking Intelligence in the Grid of Things; Drivers for the 3rd Industrial Revolution

My theme meshes three buzz words that you might have come across a lot recently: Internet of things, big data and the 3rd industrial revolution.



Background – Sam Bose & IntelliSense.io



We started our life 2.5 years back as an infrastructure monitoring company. We saw the upcoming trend of sensors, connectivity and focussed on the real world traditional industries like assembly plants, water treatment plants among others.



What is the 3rd Industrial Revolution?



“Internet technology and renewable energies are beginning to merge to create a new infrastructure for a Third Industrial Revolution (TIR) that will change the way power is distributed in the 21st century.”

Source: Jeremy Ruffkin, The 3rd Industrial Revolution, NYT Best Seller

What is driving the 3rd Industrial Revolution?

There are many different factors driving the 3rd Industrial Revolution: we have identified two below that we believe are having a material impact on countries and industries

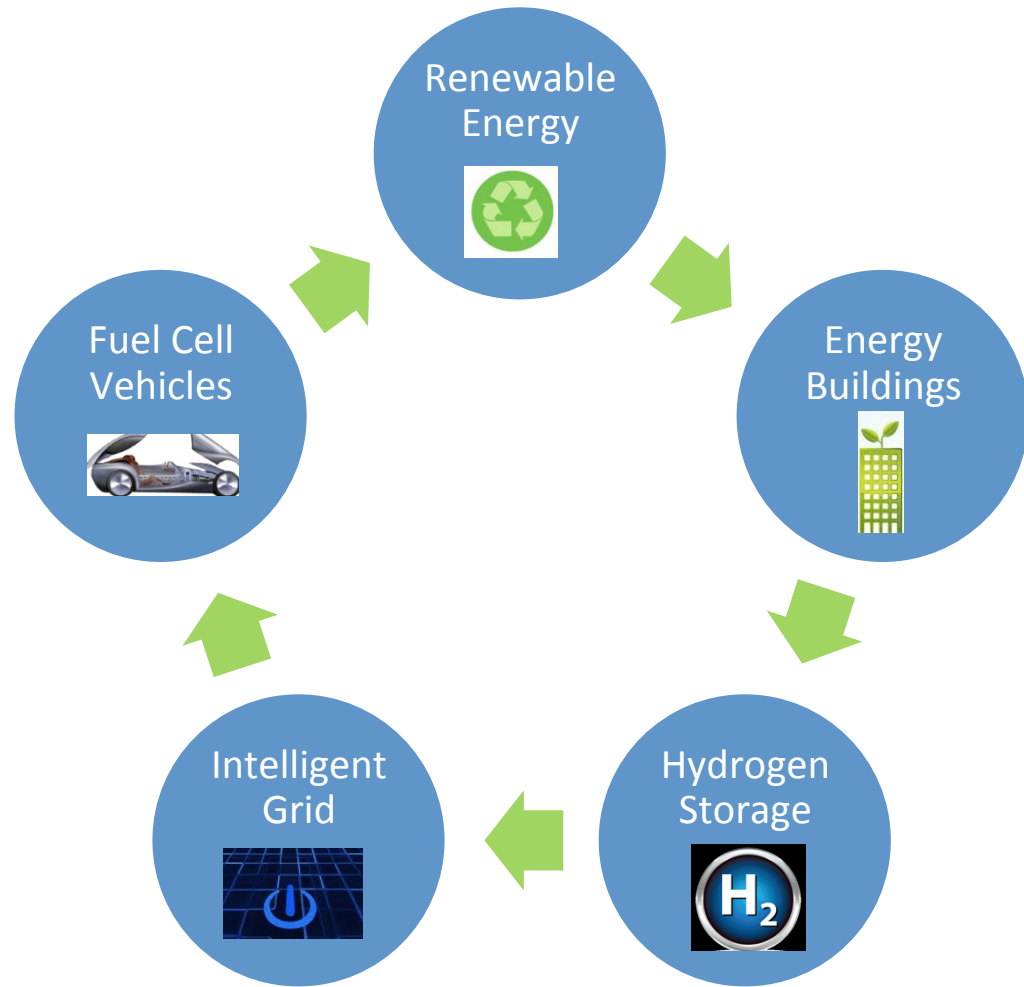


Resource Shortage



Relentless Rise in Technology

The 3rd Industrial Revolution – Basic Principles



The 3rd Industrial Revolution – How and When?



The EU is expected to draw one-third of its electricity from green sources by 2020



The projections are that we will arrive to a sustainable post carbon era by mid century.

**Source – EU Commission & MakingItMagazine.net*

Current Situation – Industrial Facts



Industrial Processes are highly energy intensive and currently account for one-third of global energy use. Around 70% of this energy is supplied by fossil fuels, and CO₂ emissions from industry make up 40% of total CO₂ emissions worldwide

**Source – Imperial College London*

Current Situation – Common Business Problems

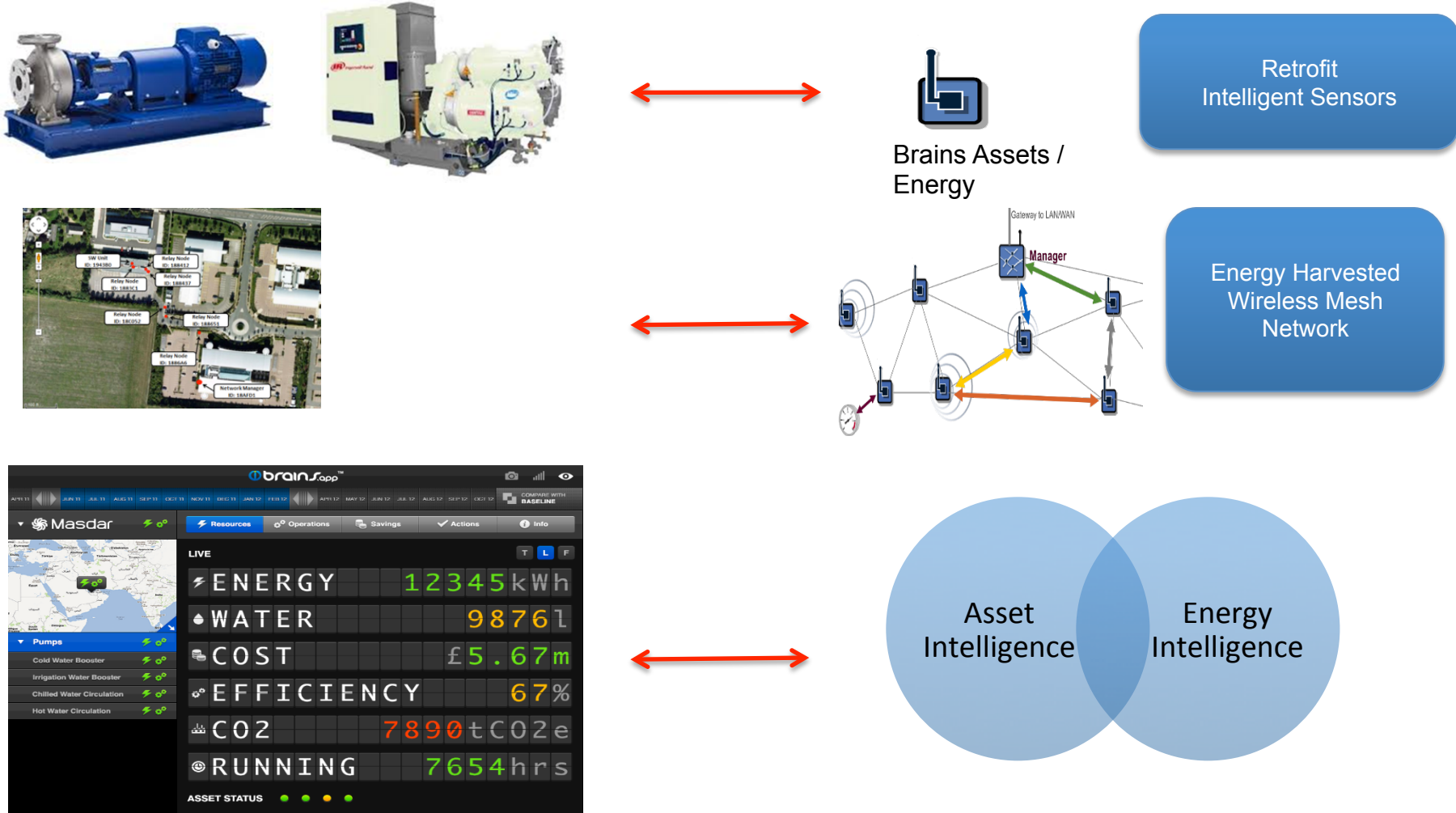


Capital Intensive Asset Owners & Energy Intensive Industries suffer from similar business problems;

- Lack of system view
- Optimisation is preferred to Capex upgrade for Energy Efficiency projects
- Prediction of future events still involves manual input and judgement
- Lead time for taking corrective actions is long

How do we Unlock Intelligence?

Combination of Intelligent Sensors, Wireless Sensor Network and Cloud Applications Software



Current Situation – Country leading the way?

“The transition to the Third Industrial Revolution will require a wholesale reconfiguration of the entire economic infrastructure of each country, creating millions of jobs and countless new goods and services.”

Germany is highlighted to be leading the way into the new economic era - John Freeland, leading commentators on this subject.



Solarsiedlung (Solar settlement), Freiburg, Germany

**Source – John Freeland*

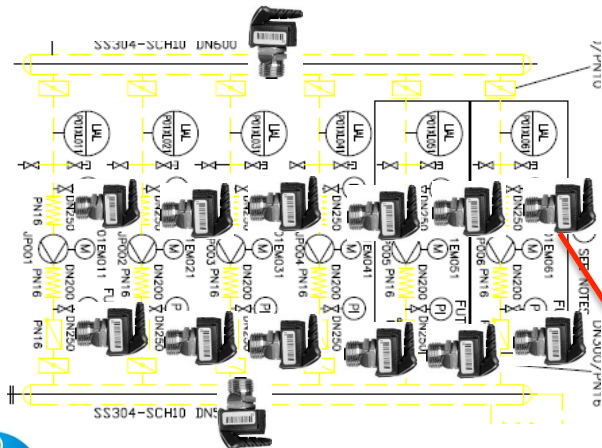
IntelliSense.io Case Study – German Semiconductor Fabrication Plant

Generation

Distribution

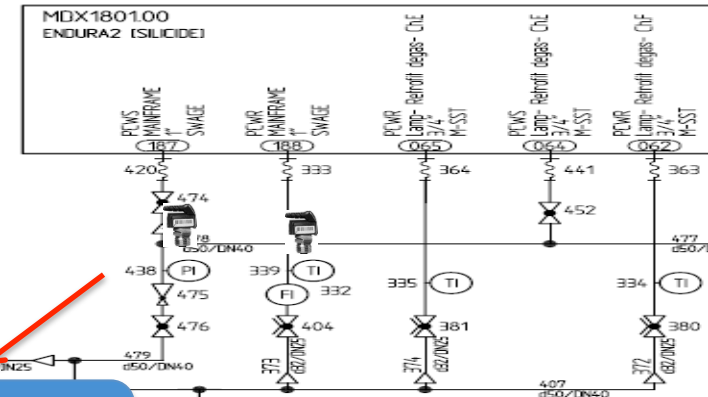
Consumption

System Level Analysis



Optimising energy cost to move water

Aligning return temp to identify inefficiency



Brains.app: our platform

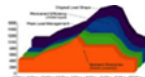
Brains Applications



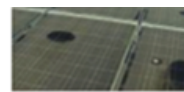
Assets



Buildings



Demand Response



Solar



Energy Performance Contracts

Infrastructure



Real time communication (WSN / Cellular)



Real-Time Workflow



Open Cloud platform



Global Data Centers



Secure Demand Response



Real-Time Analytics

Hardware



Wireless Analogue Adaptor



Wireless Audio sensor



Wireless 3 P Energy Meter



Wireless Weather Sensor



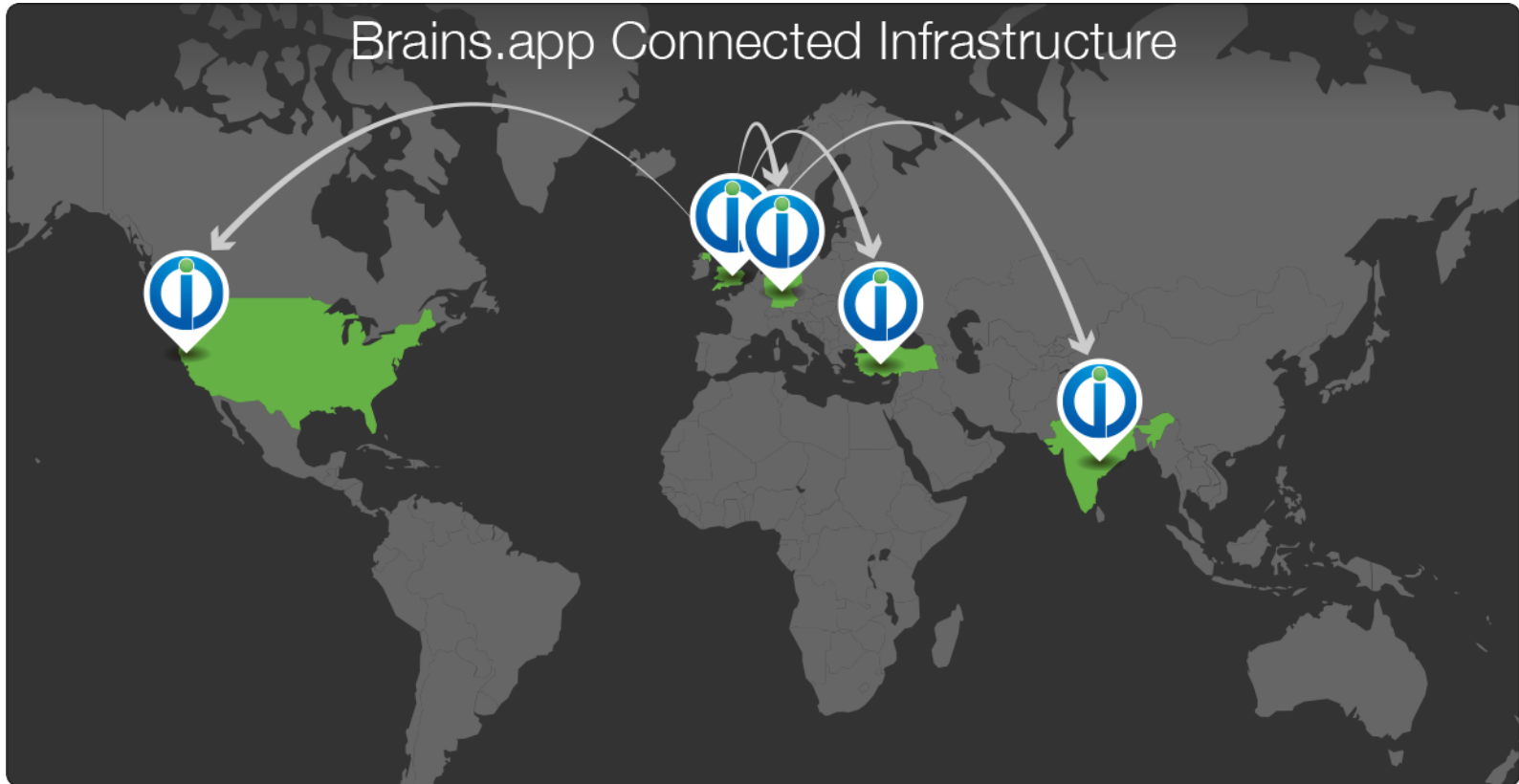
Wireless Light sensor



Wireless Solar Power Booster

IntelliSense.io – Unlocking Intelligence

Semiconductor Fabs, Food Factories, Assembly Plants & Steel Plants:
representative deployments



Takeaways

- Rip and Replace Technologies will have a tough time in convincing customers.
- Vertical Solutions leveraging these technologies will be a preferred choice for buyers.
- Customers looking for new business models

Find Out More!

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