A short newsletter to update the Smarter Project (No. 1)

11 August 2014

1. Project website and logo

The Smarter project website has been reorganised. More activities of the project will be updated in the website.

http://fp7smarter.eu/

The project logo has been developed by the Coventry's marketing team. The logo is shown on the right corner of this letter.

2. October's Workshop at Coventry University

A project dissemination workshop at Coventry University on 8th October 2014 is planned. In the morning of 9th October 2014, a Smarter project meeting will be organised.

In the workshop, apart from this Smarter project, other four manufacturing-related projects, which Coventry University is participating as project partners, will be also introduced and the research outcomes will be disseminated jointly.

The main objective of the workshop is to provide an overview and industrial applications of the technical solutions developed by the five EU FP7 sponsored manufacturing projects to address the sustainability challenges within the modern manufacturing industries in Europe. The event will bring together partners and audience from manufacturing, relevant ICT and software development to feedback their views and practices in sustainable and smart manufacturing to bridge the gap between industrial requirements and technical developments of the projects.

The website for this event is below:

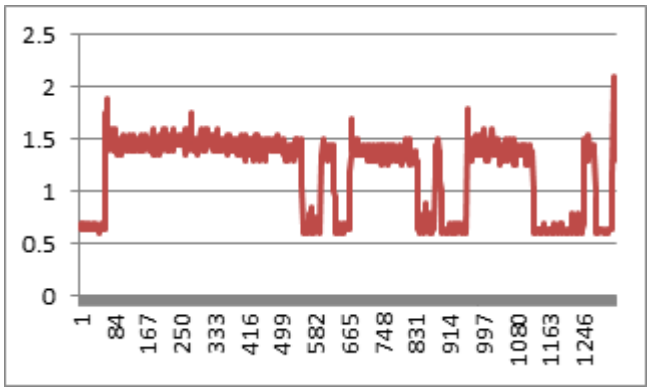
http://www.coventry.ac.uk/smartermanufacturing

3. Wireless sensor network-based energy monitoring system developed by the Coventry team and calibrated by NIFES

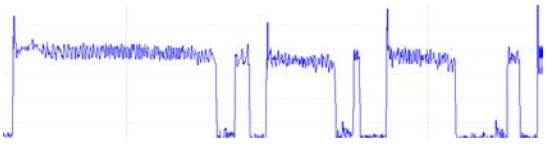
An Internet-enabled Wireless Sensor Network (WSN)-based system for real-time energy monitoring of manufacturing systems has been developing by the Coventry team. The initial prototype of the system was demonstrated at Swegon in May 2014. Further improvements in system and software design have been made and calibration of the system has been done with help of NIFES by using a commercial monitoring system. Calibration shows that the developed system can accurately reflect the electricity consumption of equipment on the second time scale.

Coventry's system can be used for multiple machine monitoring. The data can be shared via the Internet in a real-time manner. The system is planned to be deployed in Swegon from October 2014.

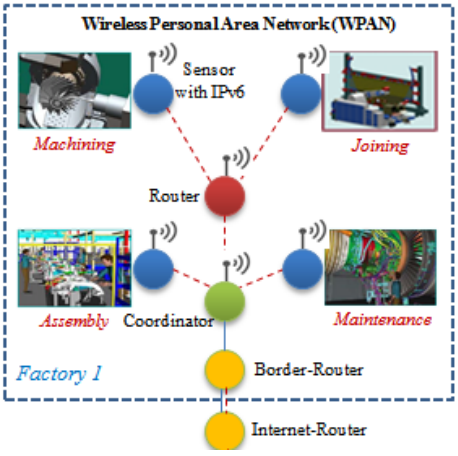
Figure 1: Wireless sensor network system for sustainable manufacturing



(a) Results from NIFES's commercial system



(b) Results from a Coventry's system



(c) To be deployed in factory

Figure 2: System calibration and diagram of system deployment in manufacturing

4. Secondment to CIM Spain by NIFES

In June 2014, Mr Donald Lack and Mr Stewart Conway were seconded to CIM Spain. During the visit, a workshop was organised to introduce the Smarter project and methodology.

Meanwhile, energy consumption of CIM machines was monitored by NIFES in order to:

- Demonstrate connection between energy usage and the machines
- Identify where energy can be recovered
- Look for the trends and the opportunities to save energy and improve production or just improve profit for the organisation

Figure 3: Secondment of Mr Donald Lack and Mr Stewart to CIM Spain

Some interesting observations were made during the secondment. For instance,

- Energy profiles reviewed showed overnight energy use which was not expected the machine has potential for recovered energy
- Too early for concrete results but from the production run we can see that there is a lot of recovered energy options
- The compressed air is running at 7 bar which is very high; it is believed that it could be reduce to 5 bar and still be sufficient for the machines. Further work to follow

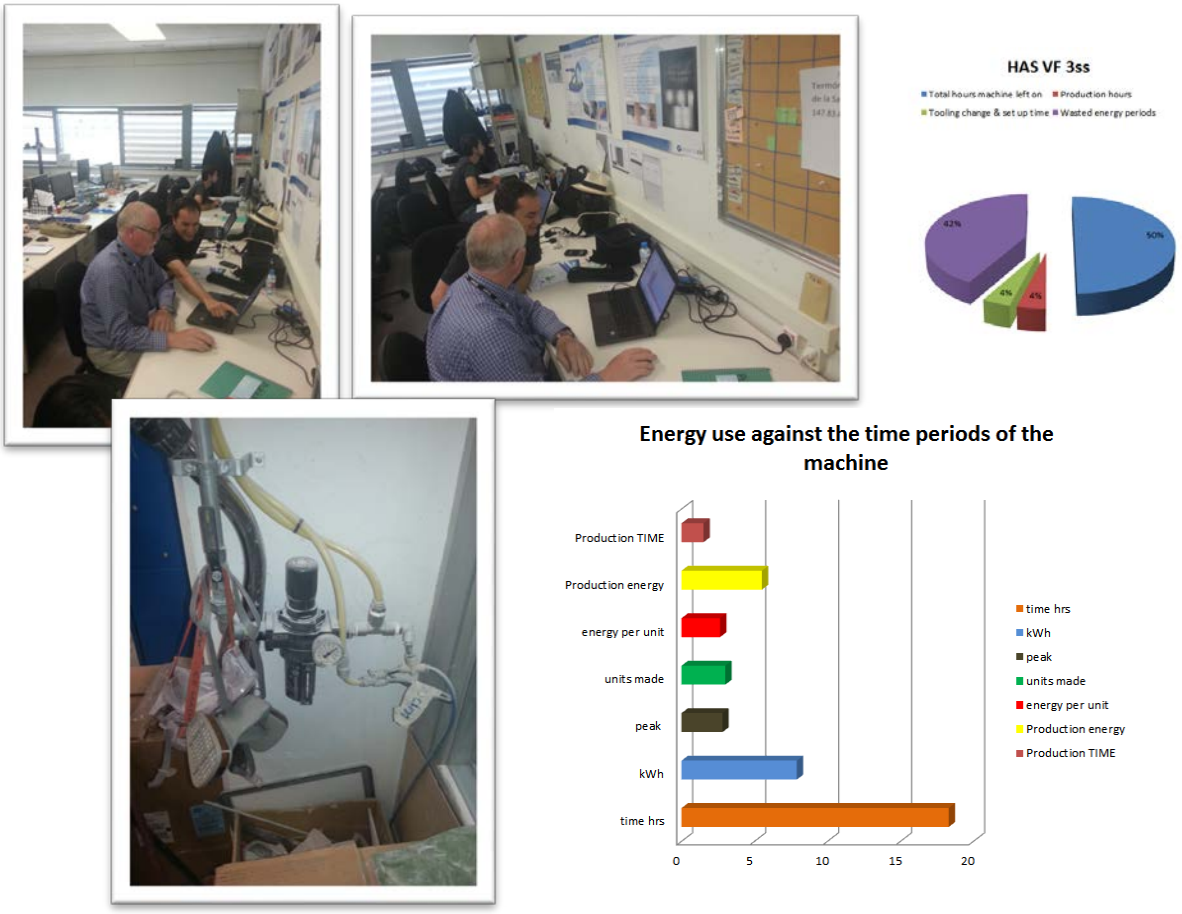


Figure 4: Energy consumption and improvement spaces in manufacturing of CIM

5. Other visit and secondment activities

Secondments and visits have been taken place between Focal of UK and HIS of Sweden and Formtech of Germany to KTH of Sweden. Fruitful results have been achieved.

Secondments between KTH of Sweden to Focal/NIFES of UK, Formtech of Germany to Coventry of UK, and CIM of Spain to NIFES of UK, Coventry of UK to Swegon of Sweden are under preparation.

More news on the above activities will be updated in near future.