



Smartfusion

- Editorial
- Latest news on the Smartfusion demonstrations
- The Smart Urban Freight Designer
- “Smart Urban Freight” conference in Berlin on 3 June 2015
- Recent Awards announcements
- Relevant events



Editorial

Dear reader,

After more than three years of work, Smartfusion will come to an end in September 2015. Before leaving you we would like to guide you through the project achievements and results, plus the next steps in the Newcastle and Como demonstrators, which were completed earlier this year. The Special Report Berlin, due for release after the summer, will complete the series of three reports detailing the design monitoring framework and data collection that have been undertaken in the three pilot sites. Our team of experts have gathered a considerable amount of data and are now crunching the numbers to illustrate project results and recommendations to a wider public in our final project report. A preview was presented at the Smartfusion final conference in Berlin on June 3 to over 70 professionals working in, or concerned about, urban freight. Presentations and video recordings of the event are available on the website.

A major project outcome is the Smartfusion Urban Freight Designer tool, developed by PTV. One aim of this product is to help local decision makers improve freight delivery by using fully electric or hybrid vehicles, comparing different routes while meeting stringent social and environmental targets; a second aim is to help freight operators, fleet and UCC managers to optimise freight deliveries and increase efficiency, whilst minimising negative impacts on the local community and the built environment. The Urban Freight Designer was unveiled to an expert audience at the Smart Urban Freight Conference 2015, in June in Berlin. A demo of the Urban Freight Designer will be made available on the Smartfusion website shortly, for you to try.

Enjoy reading!

*Tom Zunder
Principal Investigator
Smartfusion*

Latest news on the Smartfusion demonstrations

Newcastle demonstrator

The aims of the Smartfusion Newcastle Demonstrator were to demonstrate the feasibility of EVs (EU Green Car Initiative), reduce congestion by reducing the number of inbound logistics vehicles servicing the University campus and align with the University’s Coherent Campus policy for pedestrianisation and improved safety and air quality.

Traffic surveys carried out by NewRail’s Smartfusion team showed that Newcastle University’s campus freight deliveries were far higher than the average city and the Smartfusion project persuaded the University Executive Board to approve a pilot scheme to address this. The main city campus has more than 60 different departments within 80 different buildings, including offices, laboratories,

workshops, catering outlets, shops, student accommodation and other facilities. To 226 predefined ‘addresses’, the campus received 1,229 unique freight vehicle visits over a 5 day period – an average of 1 freight vehicle every 90 seconds. In fact, freight deliveries accounted for 80% of all vehicles on site.

The pilot scheme involved a collaboration between NewRail, Newcastle University’s Procurement Team and Clipper Logistics PLC, 80 Kilometres away, in Teesside.

Using Clipper’s Urban Consolidation Centre (UCC), goods are now consolidated and then delivered to the University once a day, using a 7.5 GWT Smith Newton fully electric vehicle, purchased for the purpose. Customers of the system are able to track delivery of their goods via a dedicated information portal.



The pilot ran from September 2014 for 9 months and, over this period, for the goods and suppliers involved, freight deliveries onto campus were reduced by 83%. In fact, it has been so successful that the University Executive Board is currently considering a business case to extend the trial and even permanently adopt this DSP. Next steps would:

- Extend the scope of deliveries, bringing in originally excluded goods
- Seek a UCC closer to the University
- Expand and bring in other partner institutions – as the model solution is eminently transferable to other organisations and even other cities

The success of the Newcastle Smartfusion Demonstrator is due to a number of factors:

- The main stakeholders were all involved from the beginning
- The project team was consistent throughout
- A clear project plan was developed
- Project risks were regularly reviewed
- Users were kept involved on a regular, ongoing basis
- A clear implementation schedule was set
- Detailed working practices were developed and adhered to
- A dedicated electric vehicle was procured, whose specification met all the aims of the scheme.

Como demonstrator

The Como demonstrator showed the level of complexity in delivering a successful city logistics initiative based on a mix of technological, policy and marketing solutions, in a quite compact city centre.

From a very early stage of the project, Lombardy Region and Gruppo CLAS, supported by the City of Como, met with stakeholders to identify what problems and policy measures would prove suitable to reshape urban logistics in Como and to revamp Merci in Centro, the local city logistics service. Key factors identified were policy measures (including regulations), operational measures and potential impacts.

Throughout Autumn 2014, Smartfusion tested the use of clean vehicles and ICT tools, to monitor and optimise freight operations, routes and driving behaviour. Vehicle trials provided valuable inputs to the assessment process and highlighted the potential benefits of new technologies in providing more efficient and sustainable last mile delivery services. Traffic survey data and a dialogue with the local decision makers and stakeholders suggested the approach to adopt:

- Identify effective regulations and enforce rules fostering UF
- Introduce low emission vehicles
- Rationalise logistics flows
- Introduce a model based on Urban Distribution Center (UDC)

Terms and procedures for the selection of the managing body of the UDC are still under discussion.



Team Smartfusion Newcastle in May 2015

Gruppo CLAS developed a business plan which sets the baseline for the delivery of effective and efficient new freight delivery services. According to the study, special attention needs to be paid to marketing activities, outlining fostering measures to make the service competitive against services based on traditionally fuelled vehicles, reaching a critical mass and economic sustainability.

Lombardy Region coordinated and facilitated the stakeholder dialogue, seeking a common strategy for its territory. Several other urban contexts present the same critical aspects as Como and, by developing planning concepts and regulations that deliver consistently sustainable and innovative solutions, they are enhancing the quality of life, as well as the competitiveness of their territory.

There is still work to do, as the process is continually evolving, and efforts and commitments must be put in place at the local level in order to reach the sustainability goals and meet the expectation of stakeholders.

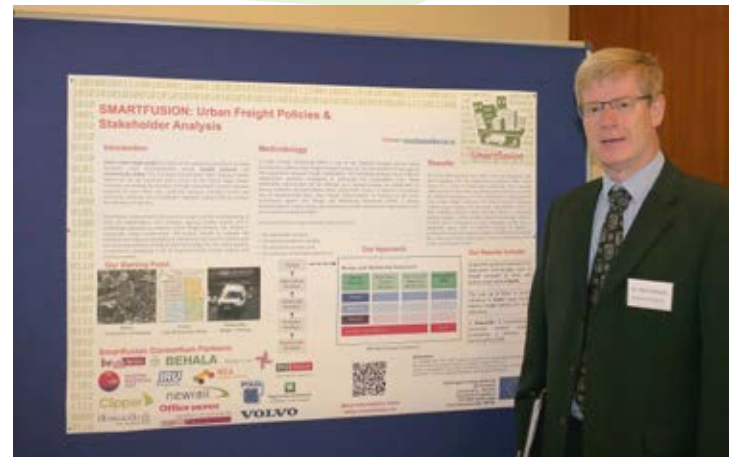
Berlin demonstrator

An exhaustive overview of the Berlin demonstrator will be presented in the Special Report Berlin which is due for release in September 2015, in English and German.

Smartfusion has published two other special newsletters: Special Report Newcastle and Special Report Como. Both reports are available for download from the project website <http://www.smartfusion.eu/downloads/newsletter-downloads>.



Smartfusion delivery van in Como



Neil Addison, Head of Procurement, Newcastle University, presents the Smartfusion demo poster, in Berlin on June 3.



The Smart Urban Freight Designer

A variety of actors are involved in urban freight logistics: commercial companies, customers, citizens, and the city authority itself. All want a vital and attractive city. Although they may represent the same interests, they most likely have different priorities, which sometimes conflict. How can such conflicts be overcome? Like the Smartfusion approach, we need people working in freight logistics - or concerned about it - to sit around the same table and discuss together what the suitable options and implications are, as well as how to find good solutions for everyone.

The Smart Urban Freight Designer, developed in Smartfusion by PTV, is an IT-based tool which simulates logistics scenarios in order to promote discussion between actors and present potential solutions for electric mobility. The in-built objectives modelled by the tool can be varied according to the target audience: e.g. optimising transport costs per km and per hour; reaching a certain service level; reducing air emissions; reducing noise; increasing safety.

The Smart Urban Freight Designer is a professional planning tool used to calculate and optimise inter-urban shipment and make comparisons between different scenarios, based on cost efficiency. Such tools can be very complex and often require professional training for the user. Especially for SME customers, or city authorities, simplicity of use is crucial. Smartfusion has geared the solution design towards an easy to use tool, based on a simplified graphical user interface, that will work for non-IT experts.

Data availability and accuracy is crucial to obtaining reliable output and to supporting sound policy decisions. To make the overall experience easier for the end user, the Smart Urban Freight Designer has a pre-built set of sample data, based on data from a Smartfusion demonstration site. These include depot locations (in the inner city, outside, or on the outskirts), delivery stop locations to service potential customers, and two vehicle profiles (one fully electric and one conventional diesel truck). With a controlled set of data, the tool looks into specific characteristic scenarios and is easy to use and convenient for every user.

The graphical user interface includes a georeferenced map and selected planning attributes to help create a delivery planning scenario. The user first selects the depot location, then chooses between the two vehicle profiles, giving further information on



Delivery route planner online demo

the number of vehicles available, operating intervals of the fleet, and operating hours of delivery for customers. The final output offers an overview of most diverse scenarios. It could help answer questions such as: "what would happen if we allowed late night deliveries?" or "what could be done to promote the use of electric trucks and reach the optimal threshold?" As an example, a simulation can be run for three different depot locations - inside the city, outside the city, on the outskirts of the city - and for both fully electric and diesel trucks. The output will be multiple, comparable scenarios which will promote discussions among the actors involved.

Data pre-built in the Smart Urban Freight Designer were sourced from the Newcastle demonstration. Local stakeholders and project partners met together in a local workshop, to decide which data should be used and how to make the Smart Urban Freight Designer more user friendly. Many data sets were sourced e.g. insurance rates; purchase costs; etc. The final simulation figures shown in the Smart Urban Freight Designer are presented in an aggregated way, as cost per km and cost per hour.

The Smart Urban Freight Designer will be made available on the project website, towards the end of the project in September 2015.

"Smart Urban Freight" workshop in Berlin on 3 June 2015

The European Commission-funded Smartfusion project held its final event in Berlin, on June 3. Entitled "Smart Urban Freight Conference 2015", it showcased how urban policymakers and operators can now analyse the likely success and benefits of applying green vehicle technologies to their city regions and supply chains, and leverage proven best practices.

The results of the Smartfusion project were unveiled to an expert audience of city and regional authorities, logistics operators, fleet managers, industry representatives and academics.

The project showcased novel transport innovations to effectively improve the efficiency, as well as the social and environmental sustainability, of urban freight in last mile operations and related urban and inter-urban shipment processes.

The results included the Smart Urban Freight Designer Tool, as well as best practices from the partner cities and regions. In its demonstration cities (Berlin, Newcastle and Como) Smartfusion determined the critical success factors in stimulating the market uptake of new sustainable vehicle technology. Different stakeholders from Europe



Arnaud Burgess, Panteia, Tom Zunder, Newrail, and SETHA Net, Faveley Transport, networking at the SUFC2015

presented the state-of-the-art solutions to urban freight challenges in their European cities.

Smartfusion was built upon existing urban freight development strategies from the three trial city regions. The City of Berlin demonstrated integrated technology solutions, Como in Italy showcased a remote monitoring system for fully-electric vehicles, and Newcastle upon Tyne examined collaborative approaches for urban and interurban shipments, using electric trucks.

Presentations and video recordings of the conference are available for download here: <http://www.smartfusion.eu/conference-2015>



Recent Awards announcements

We are proud to announce that the Smartfusion project has won two prestigious awards in recent weeks.

On 4th June Smartfusion won the “Best Environmental Initiative” at the Newcastle University Annual Sustainability Awards, which recognise projects and initiatives that demonstrate commitment to reducing the University’s environmental impact and work towards its sustainability objectives.

On 18th June the Smartfusion project picked up the award for Outstanding Procurement Team, at the (THELMA) Times Higher Education Leadership and Management Awards, in London.

Congratulations to team Smartfusion!



Team Smartfusion from Newcastle University receiving the prize for Best Environmental Initiative, on June 4th 2015

Relevant events

If you would like to find out more or ask questions please come and see Smartfusion being presented at:

TIDE Final Conference

Barcelona, 15 - 16 September 2015

www.tide-innovation.eu

CIVITAS Forum

Ljubljana, 7 - 9 October 2015

www.civitas.eu

BESTFACT Final Conference

Kaunas / Klaipeda, 22 – 23 October 2015

www.bestfact.net

2015 Polis Annual Conference

Brussels, 19 – 20 November 2015

www.polisnetwork.eu

Further information

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Disclaimer

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This project has received funding from the European Union’s Seventh Framework Programme for research, technological development and demonstration under the grant agreement no 285195.

