

## TSSG

The Telecommunications Software & Systems Group (TSSG) is an internationally recognised centre of excellence for ICT research and innovation.

Our core expertise focuses on telecoms networks, security and mobile services. Recognised as one of the top European institutes driving Future internet research, we are part of many European Technology platforms and strategic groups of industry collaborators.

Since our foundation in 1996, we have become an important catalyst for driving economic growth and job creation, through technology innovation, nationally and also in the South East region.

“Over the past 5 years the TSSG Innovation and Commercial Centre (TICC) has delivered an impact for over 90 Irish companies to help improve their competitiveness through problem solving, knowledge transfer and technology development. The TICC has also helped create 11 new start-up companies including FeedHenry Ltd. and Zolk Ltd. “

**Barry Downes – Executive Director, TSSG Innovation & Commercial Centre.**

### Address:

Arclabs Research & Innovation Centre,  
Waterford Institute of Technology,  
Carriganore Campus,  
Waterford,  
Ireland

**Phone:** 353-51 302909

**Email:** marketing@tssg.org



## Background

iTraffic is an Irish company that provides the first nationwide real-time traffic information service. In addition, iTraffic can deliver both the cause of any delays and the effect of such delays to a commuter's journey.

iTraffic engaged with the TSSG to acquire technical expertise for the creation of a new real-time traffic flow information service for business users and consumers. The target audiences for the new service are motorists driving inter-city, using the M50 motorway in Dublin or using urban commuter routes and requiring traffic information services, such as journey times, in a visual format on touch-screen phones.

## Technology Need

The TSSGs focus was on the ability to use the telecommunications network to inform the iTraffic system in order to create a way whereby traffic information could be kept constantly up-to-date and accurate for commuters during the continuous period of their journey.

## Technology Solution

Initial research conducted by the TSSG, indicated that drivers consume traffic and travel information in three phases: before they travel (route planning), as they travel (via satellite navigation systems), after they travel (route information stored for use in planning future trips or for expense reporting). This research led to the specification of a mobile application which would provide information to the user across all three phases. The resulting application provides real-time travel times on all main commuter routes in Dublin. This information is intended to become an integral part of journey planning. The application has also been developed with the potential to display relevant advertisements to users, thus creating the potential for advertisers who are interested in reaching consumers who are car drivers and technology-oriented.

The application has been developed with a framework that will accept commuter times for other international capital cities. Through its network of partners, content is currently available to iTraffic for London's M25 commuter belt and cities including Brussels, Munich, Rome and Paris.

## TSSG Innovation and Commercial Centre (TICC)

The TSSG Innovation and Commercial Centre (TICC) is the commercial arm of the TSSG. TICC leverages the scientific research results of the TSSG to deliver innovative research and commercial solutions for Irish industry and Enterprise Ireland High Potential Start-Ups (HPSU).

## What the Centre can do for Companies

TICC engage EI's TIME (Telecoms, Internet, Media and Entertainment) cluster of companies. These companies leverage the TICC's expertise through a variety of R&D services. These services include: knowledge transfer, contract R&D, Innovation Vouchers and Innovation Partnership programmes.

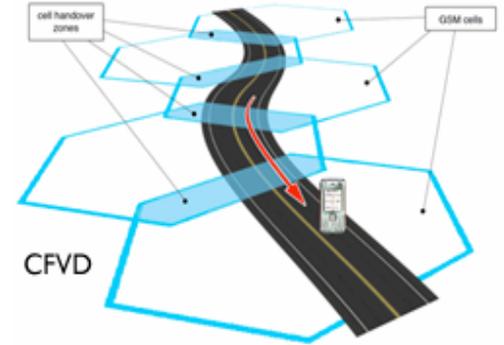
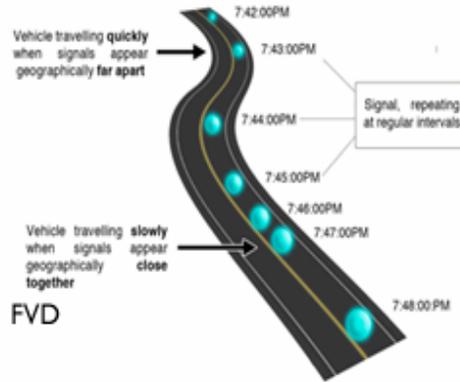
TSSG Innovation and Commercial Centre also works with Waterford Institute of Technology (WIT) Technology Transfer office, which provides technology licensing opportunities for developed

## Client Testimonial

*“The reaction to the new application from our test users has been very positive. Working in partnership with TSSG has been very productive and worthwhile and has helped us to bring this product to market very rapidly. We had access to a team of skilled software engineers and their process allows for high-quality software to be delivered quickly and very efficiently. We look forward to expanding the excellent relationship we have developed into new areas of research and development.”*

**Brendan Conway, CEO, iTraffic**

## Technology Description



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Ireland

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[www.tssg.org](http://www.tssg.org)

**Email:**  
[marketing@tssg.org](mailto:marketing@tssg.org)

Cellular Floating Vehicle Data (CFVD) is the name of the technology being used. CFVD can be combined with other data such as GPS equipped vehicles, journalistic or traffic incident data, and fixed infrastructure sensors to provide rich, high quality traffic information including current journey times, current traffic speed, expected trip delays, incident cause and effect, intelligent routing and congestion indexes.

Within a mobile phone network, a data record is generated every time a phone hands over from one cell tower to a connecting cell tower. Further, as cell towers are fixed in their location, it is possible to accurately determine the intersection areas of the cell tower coverage on a map. By combining the handover event and the cell tower intersection areas, it is possible to determine possible paths of a phone through a mobile phone network. Overlaying this information with a navigation quality digital roadmap, an analytical engine can determine the potential paths of vehicles through the road network. When this data is generated for many potential paths, patterns of road traffic information can be created. This information is then augmented with GPS probe vehicle data to assist in ongoing calibration of the system.

## Contact

For more information on engaging with the TSSG, please contact:



**Barry Downes**

Executive Director  
TSSG Innovation and Commercialisation Centre  
Waterford Institute of Technology  
Ph: +353 51 302 932  
E: [bdownes@tssg.org](mailto:bdownes@tssg.org)