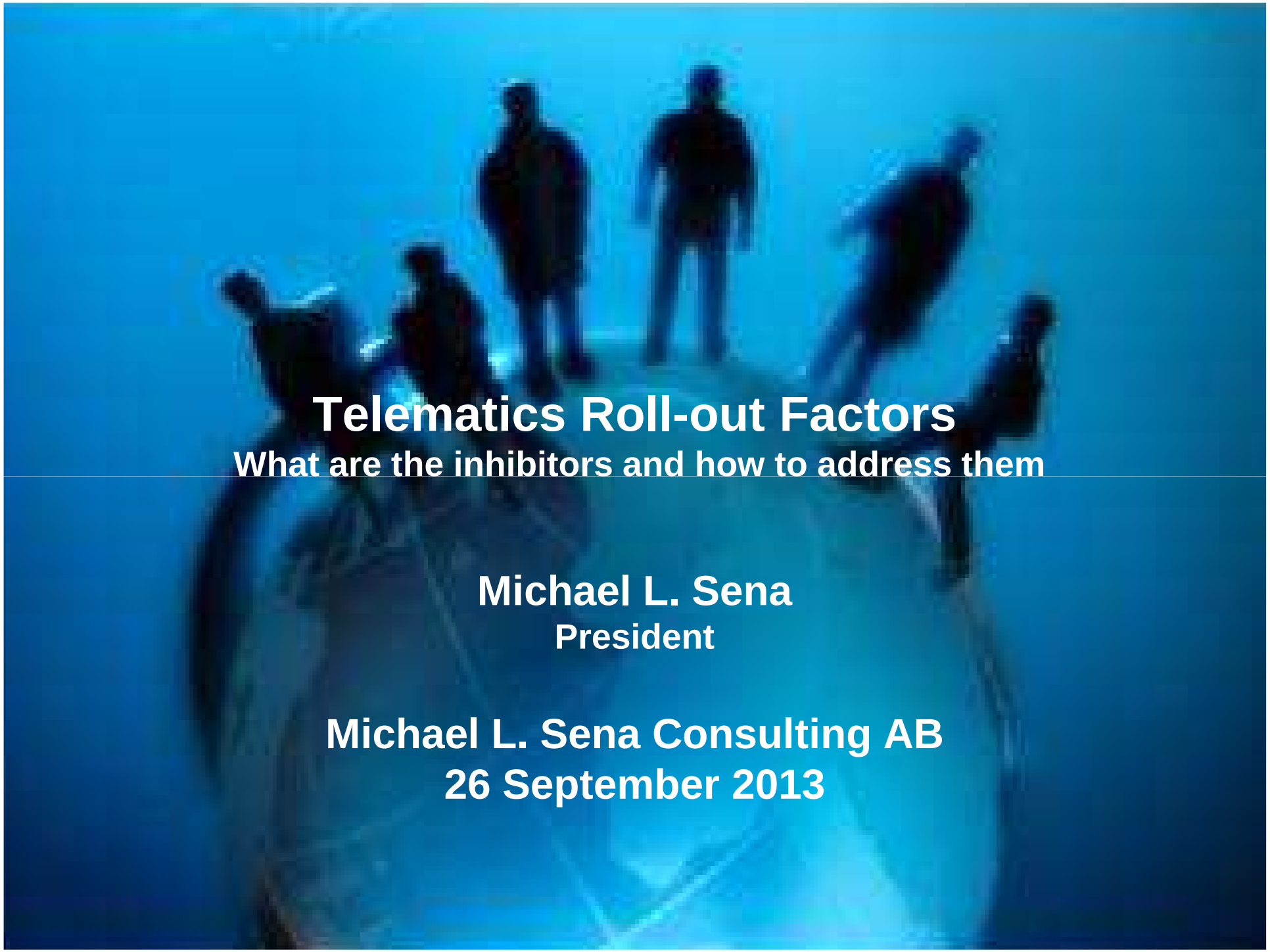


Telematics Roll-out Factors

What are the inhibitors and how to address them

Michael L. Sena
President

Michael L. Sena Consulting AB
26 September 2013

Telematics Roll-out Factors

Where the telematics business is today is a result of four major converging technologies:

- Wireless telecommunications
- Digital maps
- Global navigation satellite systems
- The Internet

They have been commercialized and are being used to create all types of products that are affecting our daily lives, and having an impact on our futures.

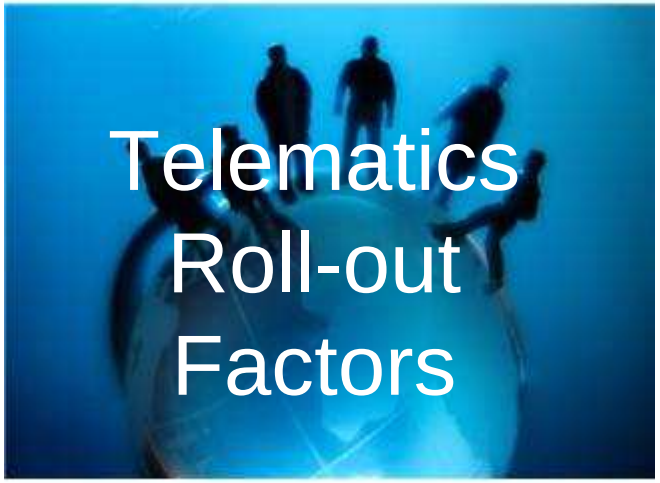
Telematics systems for cars and trucks began to be commercialized starting in 1995 when these technologies were ready for the mass market. That was only 18 years ago. Changes occur quickly. Think iPhone.

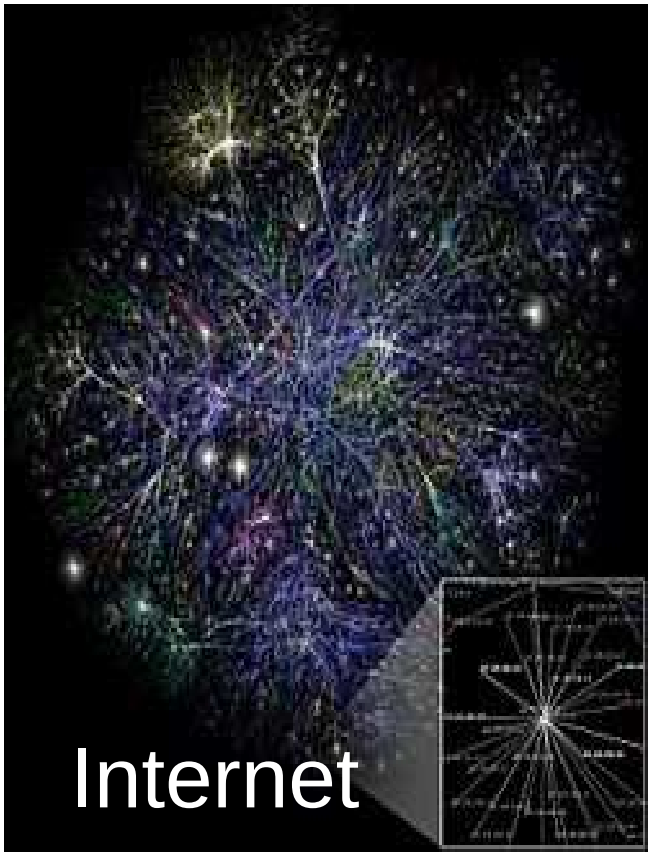

Smarter Driving


Digital Maps


GNSS


Wireless
Technologies


Telematics
Roll-out
Factors


Internet

Telematics Roll-out Factors

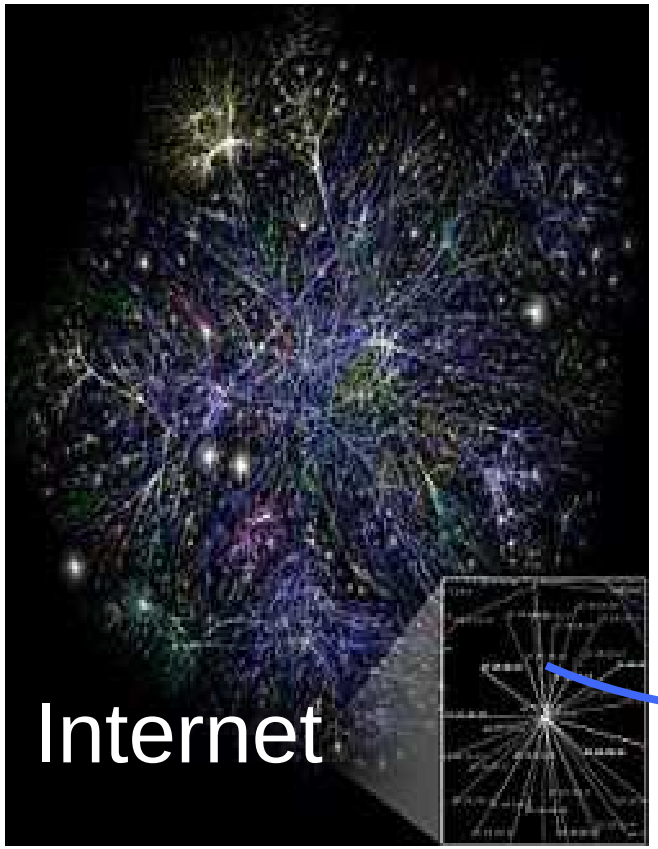
An example of just how quickly things can change is the impact that the iPhone has had.

Steve Jobs introduced the iPhone, in his own words, as “a wide-screen iPod with touch screen controls and a full-function smart phone with Internet connectivity”. The first iPhones were delivered to consumers in June 2007.

In five years, this invention has changed everything. The iPad followed. Jobs presented it in January 2010. Whatever hadn’t changed by then changed afterwards.

But none of Apple’s or Google’s inventions, or the fuel-saving and safety-improving inventions of the vehicle manufacturers exist inside their own bubbles. They are both affected by and affect developments in how we live on and use this planet earth. These are the Telematics Roll-out Factors.

iPad Presented in
April 2010



First iPod sold
November 2001

Telematics Roll-out Factors

The Idea

Very few car companies have rolled out their telematics systems globally. General Motors' OnStar has the largest number of users with over 6 million, but the system is offered only in the US, Canada and China. Volvo has its multi-function system in seventeen countries, including Brazil and Russia, but this has taken over sixteen years since the concept was first approved by Volvo management.

There are reasons why this is the case, and the lessons learned should be born in mind when discussing how to encourage telematics growth in new markets, like the Eastern European countries, India and southeast Asia, Africa and South America.

Car OEM Integrated Telematics Suppliers			
Number of Countries	eCall and bCall	eCall and Security & Safety	eCall and S&S with Connectivity
>15	PSA	Volvo Cars	
5-15			BMW
< 5			GM/OnStar Toyota Hyundai Nissan Honda Chrysler Mercedes-Benz

Tethered or External SIM-Card Telematics			
Number of Countries	eCall and Security & Safety	eCall and bCall with Internet	Internet only
>15	Mercedes-Benz*		Audi
5-15	Allianz Telematics		
< 5	Octo Telematics	Ford	

* eCall only

Volvo On Call Selling Factors

= Market selling option
= Cross-border service
= No service yet

US: Help me get there safely

Nordics: Start my heater

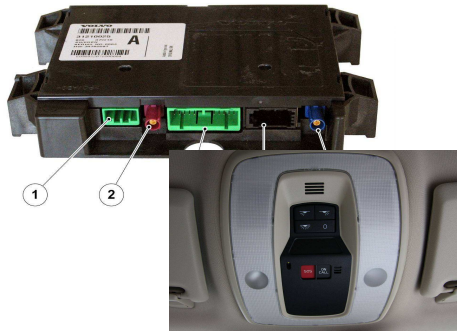
Russia: Protect me and start my heater/AC

Western Europe: Keep me out of congestion

China: How do I get there?

Southern Europe: Start my AC Protect me

Brazil: Protect me



Telematics Roll-out Factors

The current state of play

- Safety – eCall and roadside assistance. EU and Russian eCall will eventually commoditize emergency call and mobile apps are already being developed for roadside assistance by all car manufacturers.
- Security – Volvo is the only provider of factory-installed telematics with stolen vehicle tracking. Others have dual systems. The market for stolen vehicle tracking systems is shrinking as cars become more difficult to steal, resell or demount, but tracking for personal use, such as teen monitoring, is becoming more popular.
- Convenience – Navigation systems, both on-board and Internet-based, are becoming standard with connected telematics. Remote heater start was the most important single service that kindled the massive take-up of Volvo On Call in the Nordic countries.
- Vehicle and Customer Services – Remote diagnostics, remote software download, connected service booking, customer relationship management are all important services in the future.
- Insurance Services – Will be standard in coming years as insurance companies transition to usage based insurance.
- Eco Driving – Financial and tax incentives for fuel saving are encouraging consumers to monitor their usage of fuel.
- Fleet Monitoring – Car sharing and urban car rental will expand.

Current State of Play

Convenience

Information Call
Remote Door Controls
Remote Climate Controls

Safety and Security

Emergency call
Roadside assistance
Theft Notification
Stolen Vehicle Tracking

Vehicle Services

Customer Service

Eco Driving

Fleet monitoring

Insurance Services

Usage-based
Pay-as/when/where

Telematics Roll-out Factors

What are the potential obstructions that hold back market implementations.

- Government Regulations – Brazil, Russia, EU have all attempted to direct the market through legislation. US, the largest market for private telematics, has not such governmental involvement.
- Privacy Laws – Storing and using customer data is a strong incentive to install telematics, but laws prohibit indiscriminate usage..
- Insurance Practices – Insurance companies have not supported telematics implementations. They insure risk and encourage safety improvements, but they do not finance it.
- System Certification - Type Approval acceptance is essential, and certification in one EU country is accepted in all others. Systems coming in from outside the EU must undergo strict review.

Telematics Roll-out Factors

What are the potential obstructions that hold back market implementations.

- Roadside Assistance Provider – Most OEMs offer free roadside assistance during the warranty period. Current RA partners have an advantage for delivering call center services.
- Telecommunications Issues – A single SIM provider solution is ideal from a cost and logistics viewpoint, but is difficult in practice.
- Cross-border Services – It is essential to offer seamless services across all borders.
- Connected Car Systems – Adding Internet in the car is cómplicating the safety and security offerings..
- Future Mobile Technologies – Most OEMs are still using 2G modems and now 4G is being promoted heavily for data. Vehicle manufacturers cannot move as quickly as the hanset manufacturers.
- Message Protocol – There is no standard protocol for data messages.

Potential Obstructions

System Certification

Insurance Practices

Roadside Assistance Provider

Privacy Laws

Telecommuncations Issues

Government Regulations

Cross-border services

Message Protocol

Connected Car Systems

Future Mobile Technologies

Telematics Roll-out Factors

What are the essential services that must be delivered

- Positioning – Digital map availability
- Emergency Call – Public Service Answering Points
- Roadside Assistance Call – Towing and repair services.
- Stolen Vehicle Tracking – Cooperation with police.
- Remote Vehicle Immobilization – Cooperation with police.
- Remote Door Unlock – Secure private code.
- Remote Engine Start – Environment regulations.

Essential Services

Positioning

Remote Engine Start

Emergency Call

Remote Door Unlock

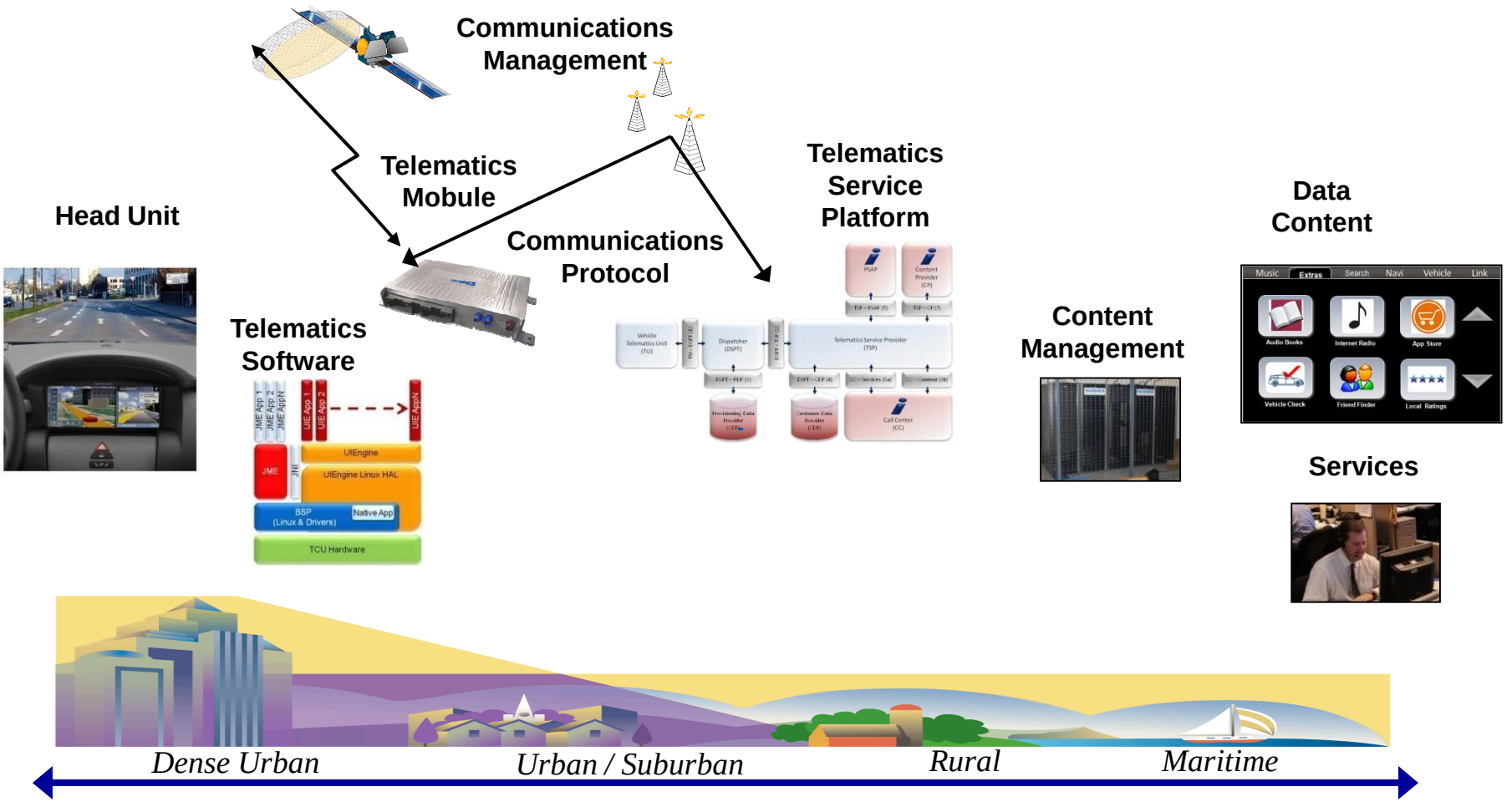
Roadside Assistance

Stolen Vehicle Tracking

Remote Vehicle Immobilisation

Telematics Eco-system

The car is no longer an isolated capsule—it is part of the matrix




Michael L. Sena
ml.sena@mlscab.se