

# AUTOTALKS. ROLLING OUT V2X

**Accelerated and cost effective  
deployment of V2X solution**

ITS Israel

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# Autotalks in a Nutshell

» **Business:** Fabless semiconductor company

World's leading provider of integrated Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) communication (referred to as V2X) chipset for vehicle safety and mobility applications

» **Legal:** Incorporated in Israel, 2008

Privately held company, backed by leading venture capital funds

» **Offices:** Headquarters and R&D center: Israel

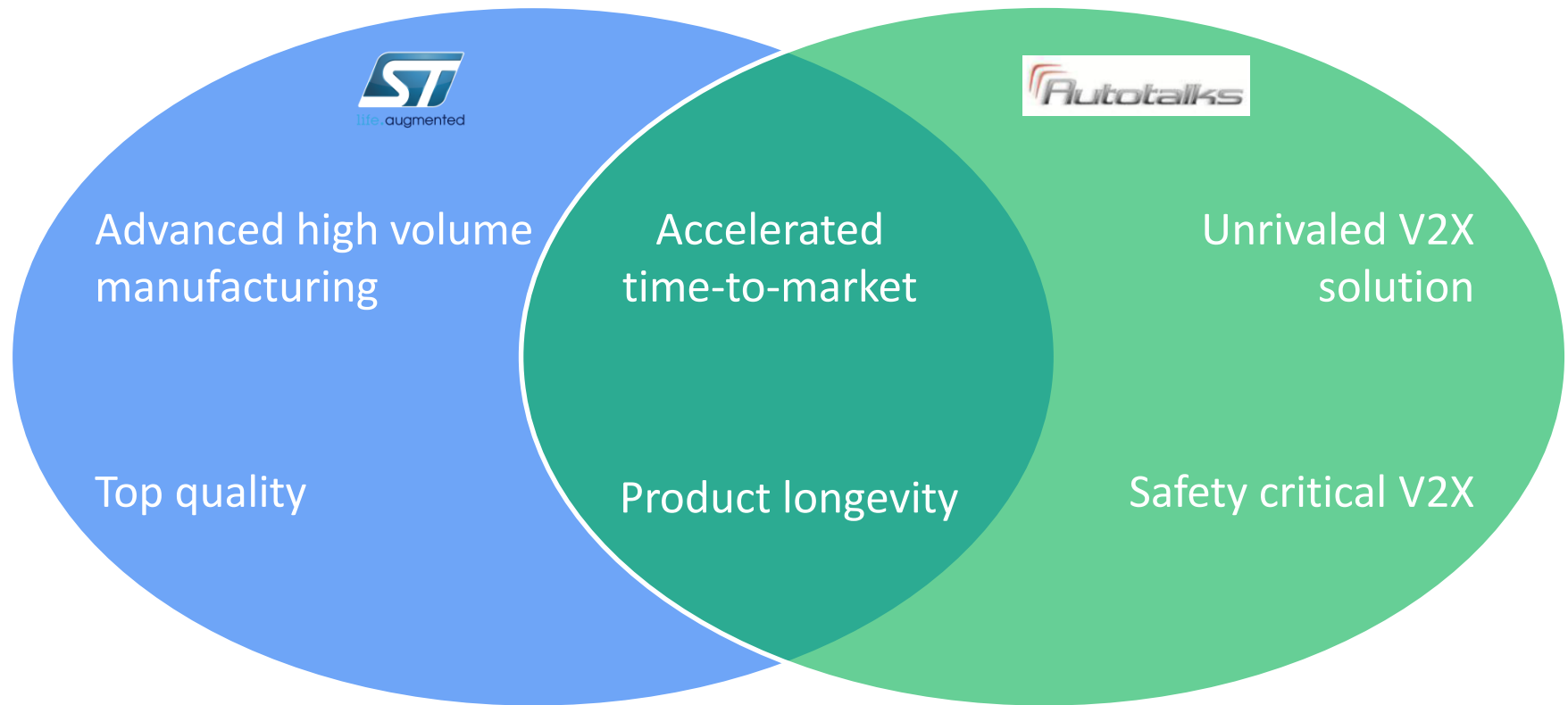
Sales offices: France, Germany, Japan, Korea, Spain, Sweden, USA



# Autotalks and STMicroelectronics

## Strategic partnership

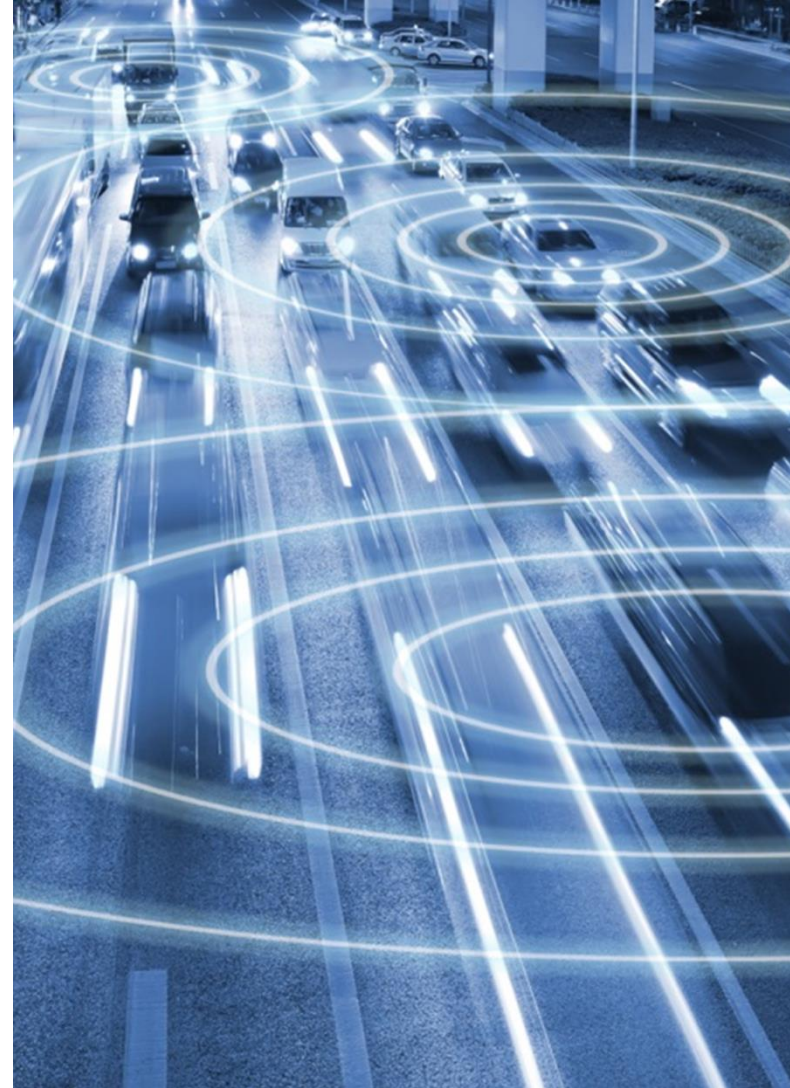
- » Autotalks and STM partner towards mass-market V2X chipset offering
- » STM expertise is a perfect match with Autotalks V2X technology lead





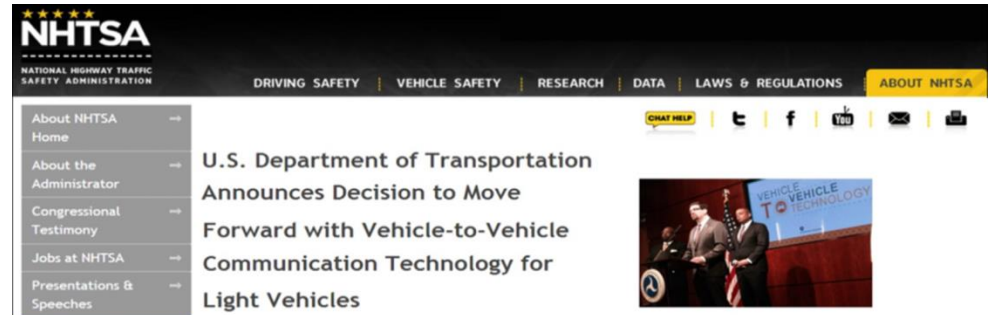
# V2X Wireless Technology

- » Wireless technology enabling infrastructure to deliver data to vehicles (V2I) and vehicles to exchange information such as position and speed with other vehicles (V2V)
- » Primarily using 5.9GHz band
- » Ratified standardization enables interoperability of communication, security and messaging

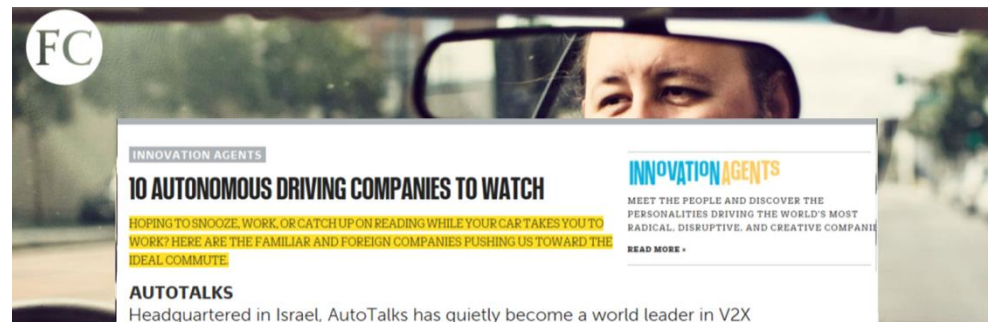


# V2X Market Drivers

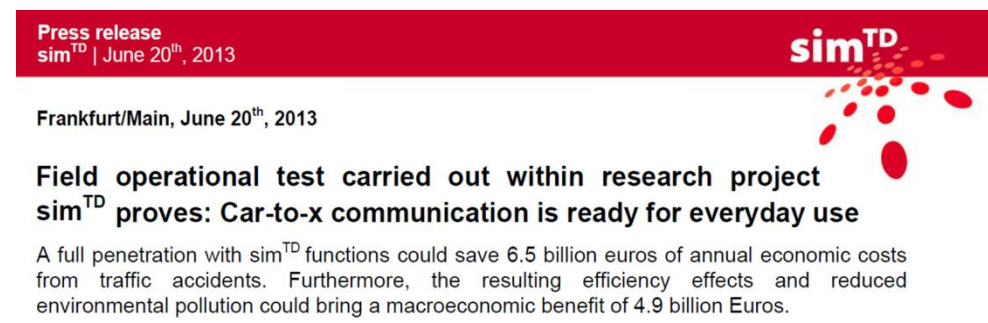
USDOT moves forward on  
V2X mandate for light vehicles  
*“V2X can prevent >80% of traffic  
accidents”*



V2X is key technology for  
Autonomous Driving  
*Highly automated cars expected  
by end of decade*



V2X can reduce fuel  
consumption, CO2 emission  
and travel delays



# Building a Critical Mass of V2V-equipped vehicles

*“...US could be on the cusp of a great leap forward in automotive safety. All that’s required is ... to rally behind the scientists and engineers who have spent the past decade developing a wireless technology called V2X...*

*...All of us need to do our part to build a critical mass of V2V-equipped vehicles on the road on a much more accelerated timetable than regulation alone will drive...”*

(Mary Barra, GM CEO, The Washington Post)



**How to apply built-to-cost solution?**

**How to quickly introduce solution to market?**

**How to ensure uncompromised security?**



# Accelerating Series-Production V2X Designs

## » What suppliers find in recently-published V2X RFQs?

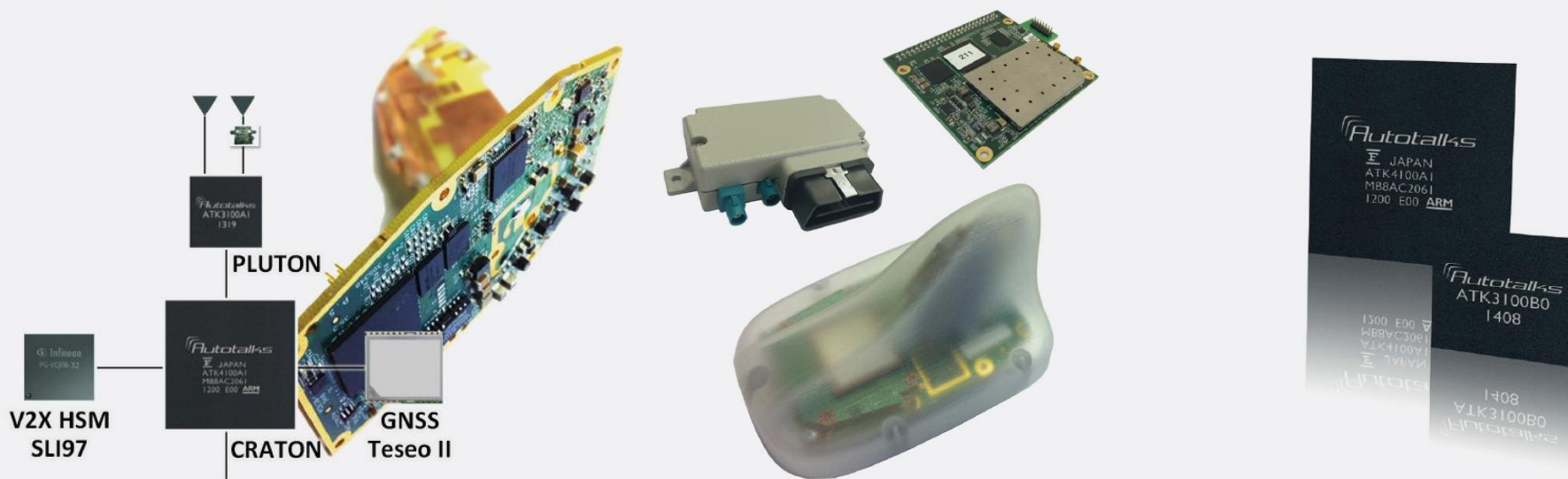
- Multiple architecture variants *(antenna, ECU, TCU, ADAS, etc.)*
- Worldwide support in a single design *(Europe, USA, Japan)*
- Uncompromised requirements *(Security, OOB filter, etc.)*
- Complex supplier matrix and R&R *(Antenna vendors/Tier1s, Software vendors)*
- Strict cost-driven business case *(BOM, royalties, NRE, integration, testing, etc.)*



# Accelerating Series-Production V2X Designs

## » What are the key technical requirements?

- Full automotive-grade solution with all building blocks *(ramp-up availability)*
- Low development risk and cost *(business case, schedule)*
- Fully compliant/interoperable software *(industry standards, validation)*
- Reliable safety application decisions *(usability and user experience)*
- Software quality meeting AutomotiveSPICE guidelines *(safety-driven quality)*
- Secure solution that will not be misused / manipulated *(sustainable network)*





# Leveraging on a Mature All-included V2X Solution

- » OEMs suppliers vary in hardware design capabilities and constraints  
*(yet need to meet critical milestones and timeline)*
- » V2X chipset provider must offer all necessary building blocks
  - **Hardware:** modem, CPU, high temperature range, cable compensation, out-of-band filter
  - **Software:** simple V2X protocol stack integration, optional vehicle integration
  - **Security:** hardware security module (HSM), line-rate verification, upgrade scheme
  - **Quality:** automotive-grade qualification, production-grade software, AutomotiveSPICE
- » Mature reference design and available modules can significantly accelerate development and integration cycles

# Modules for Accelerated Series Production

## » V2X module accelerates hardware design

- No need for RF design, bring-up, testing
- Small form factor
- Simple add-on to existing ECUs

## » Module contains entire V2X functionality

- Modem, security, processing
- Pre-integrated software for blackbox solution



# V2X in Israel

## » The bad

- 5.9GHz spectrum is not allocated
- No Automotive eco-system
- Government commitment and involvement is way behind other developed countries

## » The good

- Value of innovation in transportation is recognized

## » The opportunity

- V2X technology is a platform for offering disruptive applications

## » Contact us:

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