Traffic Management System in Sweden
Development over 20+ years and where we are today
1 Traffic Management System for Road Traffic and Operations/Technical management in 4 Traffic management Centers
Background system architecture - strategy

• Big investments in tunnels and ITS-systems was planned in Stockholm in the 90th.
  ➢ Analysis of operational requirements to the entire region's plans
  ➢ Analysis of functional requirements against operational requirements

• Resulting in requirements for an integrated system environment with decision support.
  – The principle of "on top" umbrella system integrating all other systems.
    Abstracting information/data.
  – All operator roles supported in the same system, Traffic management,
    Operations, Technical management, Information management
  – Today 40-50 subsystems where a system may be a complete tunnel system f.ex
    Southern link in Stockholm.
  – Event handling and Decision support
    • Help operators to:
      – Recieve events(alarms,faults,incidents)
      – Verify events.
      – Choose correct actions for events
      – Execute actions
      – Allways working according to correct routines (workflow support)
Model system architecture for systems within Road Traffic and Operations/Technical management.

Regionally controlled equipment connects to systems as:
- Variable speed system
- Motorway Control System
- Traffic signal system

Locally controlled equipment connects to systems as:
- Tunnel control system
- Bridge control system
- ...
Development in over 20+ years

- Timeline for the Traffic Management System in Sweden
  - Stockholm Region
    - 1995 Start of CTS project Stockholm region only
    - 1997 Contract with Serco for development (worldwide competition)
    - 2001 First stage delivery (few subsystems, basic functionality)
    - 2004 Third stage delivery (full functionality, full scope of subsys)
    - 2005 - Maintenance further development, subsystem additions
  - National level
    - 2010-2013 CTS -> NTS CTS becomes the National Traffic Management system installed in all 4 Swedish TMC:s (several prices as “state of the art” best TMS worldwide)
Project update MTLIV

Modernisation of Traffic-Control and Information Road
MTLIV Project

A modernised Traffic management system suited for the functional requirements of the future with lifetime 15 years+.

NTS
End of life

+ New requirements

= Future proof Traffic Management System
New lager organization

Norwegian SVV has joined the project
• SVV provides resources for development matching what TRV has put in place
• The joint venture continues until all base functionality has been developed and tested
• SVV take a copy of the product and continues on their own
• No financial exchanges occur
MTLIV Organisation

Sponsor

Steering committee

Jonas Ivarsson (GPM)

IT
Olof Rosengren (PM)

Solution/Architect team
SWE and NOR

Scrum team 1
SWE and NOR

Scrum team 2
SWE

Scrum team 3
SWE and NOR

Scrum team 4 MAP
Carmenta

Scrum team 5
Nicander

Kanban
SWE and NOR

Test och release
SWE

Hardware/Network/Management
SWE

User interface
Anders Jakobsson (PM)

Product team
SWE and NOR

Roll out/
Facilities preparation
Patrik Hallin (PM)

Simulator supplier
SWE

2017-08-18
New product name LAIV

Lead, Object surveillance, Information Road
MTLIV Achieves and *Prepares for*

### Efficient traffic management
- Improved Process
- *Improved analysis function*
- *Advanced automation*

### Improved information
- Online information
- Simplified terminology
- *Enhanced statistics and analysis functions*

### Efficient administration
- Consolidation
- Higher availability
- Shared data

### Future Secure
- Updated architecture according TRV standards
- Modular system
- Scalable system

LAIV
MTLIV Time plan

- Development 2015-2018
- Facilities preparation 2016-2019
- Test and Training 2018
- Roll Out 2019

Facility:
- Test and Training Facility
- South West
- North East

Dates:
- 2018
- 2019
- 2020
Facilities preparation

Major challenge

LAIIV must be verified against the road objects before roll out

- Verifying is time demanding and expensive
  - Guards and closing the objet during night hours
  - Many recourses and lots of overtime
- Bench test is cost-effective and time-efficient

- The project will build simulators for the road objects.
  - Every thing is tested in a simulator
  - Minimum of testing in the road facility

Agil procurement for the development of simulators has begun, is expected to be completed in Q4 2017
Roll Out

- Roll out will be performed in four steps (South, West, North and East)
- A general Roll out plan has bee developed and agreed with all stakeholders
- Testing, Training and Facility preparations has to be performed in advance of roll out
- Next step: Together with Traffic Central South agree on a sharp Roll out plan for south