

## Workflow management with regards to TMPlan and CIS Exchange

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6<sup>TH</sup> FORUM  
WEBINAR SERIES

Please ask your questions in the Q&A

# Workflow supporting TMPlan Operations

- **Exchange 2020 CIS** supports Collaborative Traffic Management
  - VMS operation
  - TMPlan operation

From basic interactions to complex orchestration
- **Robust operational exchange** requirements
  - Simple Feedback Management
  - Complex Workflow description

In a secure and trusted environment
- **New requirements and harmonised specs**
  - Application processing hints linked to data and communication level
  - to be agreed and standardised

future development and new standardisation fields

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# Collaborative Traffic Management by CIS



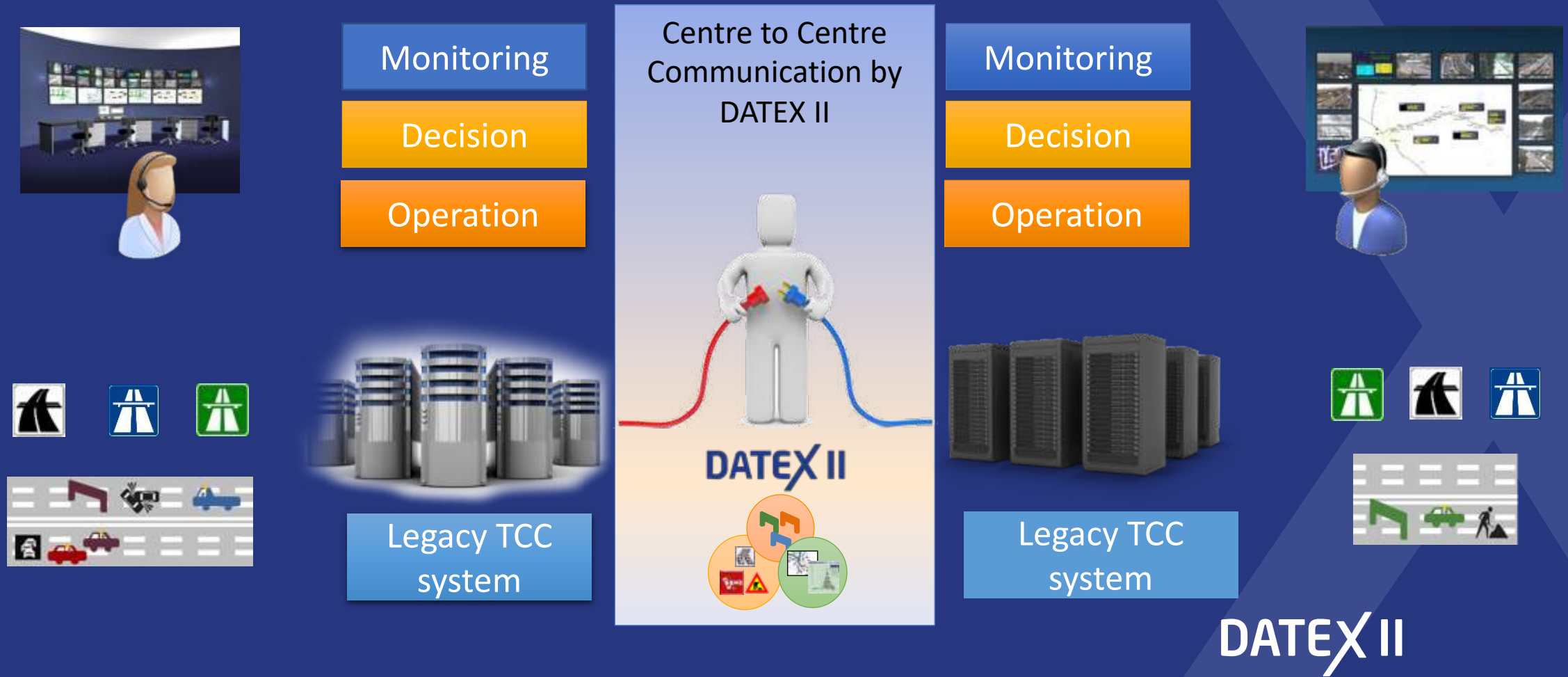
## Exchange Levels

1. Information Delivery
2. Processing
3. Collaborative Management Agreement and Monitoring
  1. VMS Setting
  2. TMPlan operation

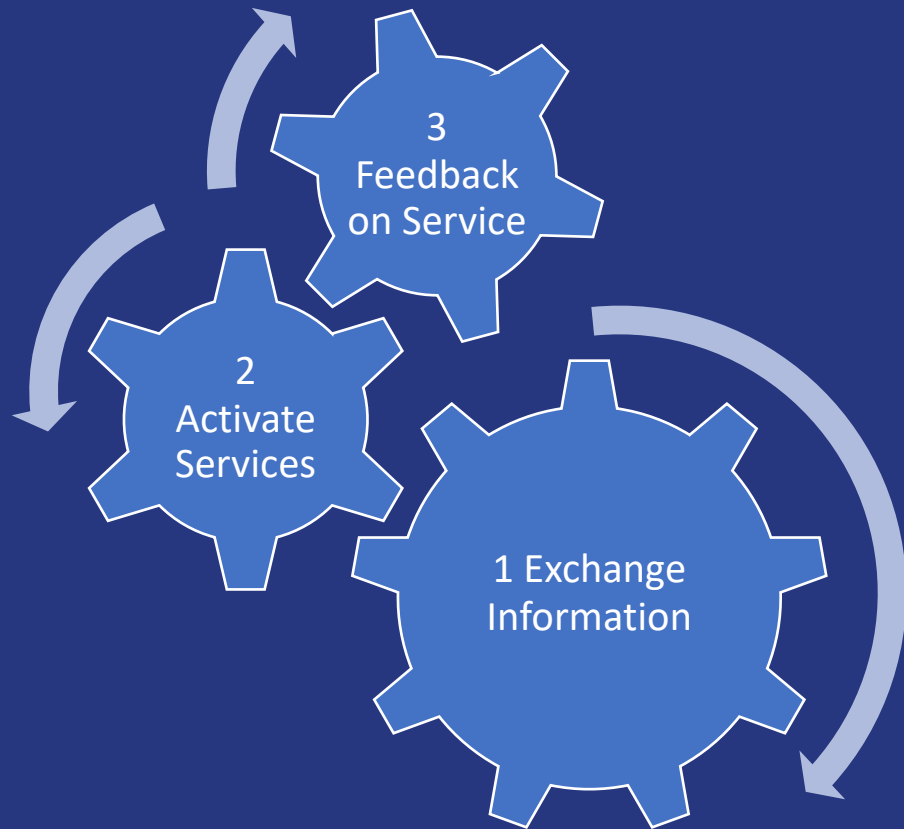
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# Information beyond the boundaries



# Collaborative ITS Services



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# VMS Messages Activation after Situation



Situation Exchange

- Queue in A41 km 327 dir S
- Accident in A41 km 323 dir S

VMS Message Generation

- Feedback Processed
- Feedback VMS activated

VMS Messages information

- VMS AV50301 ON
- VMS AV50302 OFF



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# Service Request Workflow Model



service request

compliant

*or rejected as not compliant*

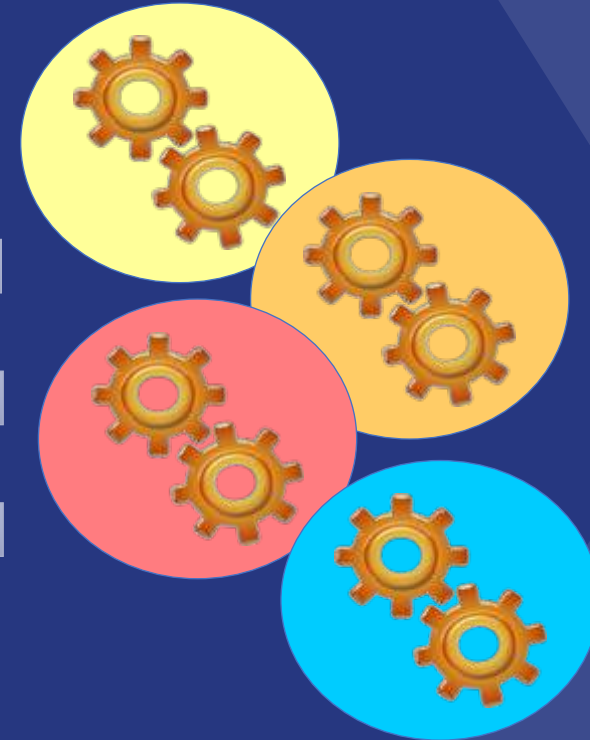
ok / ko

ok / ko

ok / ko

processed

Final Status / Overall Service Feedback



Processing Phases  
Compliance check  
Semantic  
Processing phases

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# Processing Messages and VMS Information



 accident au km 327 en A41, direction Alps  
 Bouchon au km 323 en A41, direction Alps pour 4000 m  
 +  
 Information Routière: Situation

DATEX II Situation

received

understood

Process Request

processed

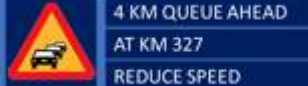

activated

DATEX II VMS



Messages panneaux lumineux  
   
 



 AV50301  


 AV50302  


actuator

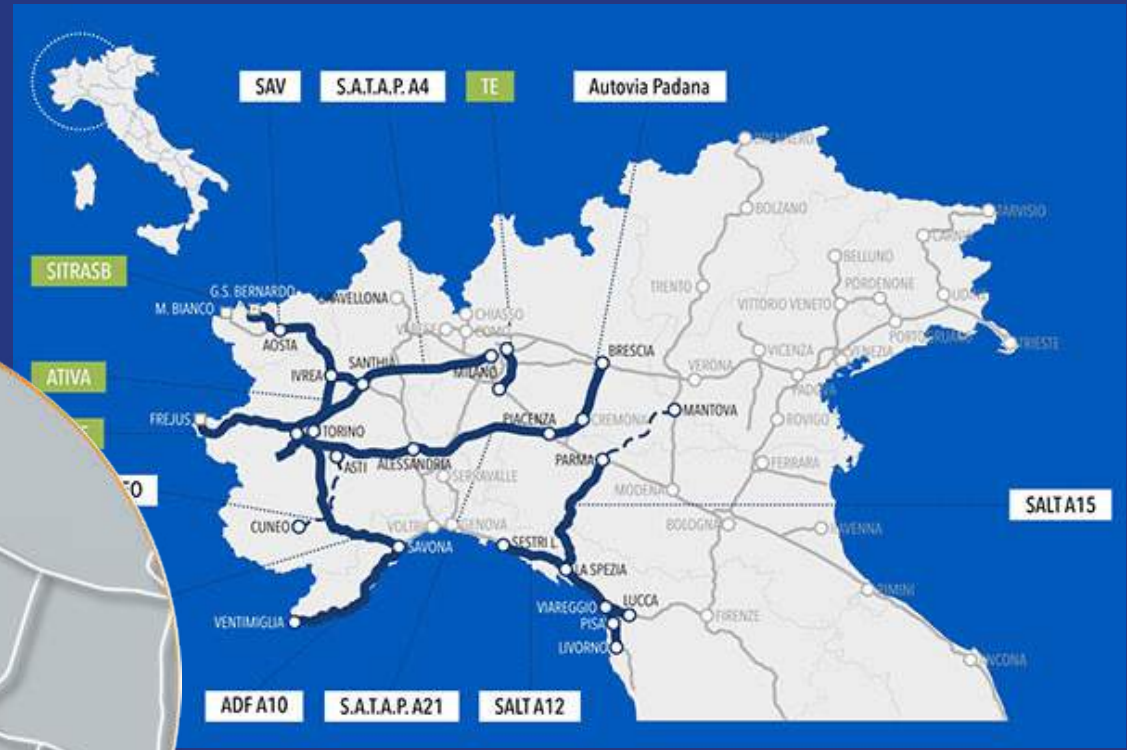


DATEX II



# DATEX II exchange for VMS management



TCC operational Exchange supporting automatic VMS messages Management

- Autostrade group
  - Genova Area
- ASTM group
  - Surrounding motorways



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**EMPOWER**

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9th June 2021



# Situation update Management ?



accident au km 327 en A41, direction Alps

Bouchon au km 323 en A41, direction Alps pour 4000 m

Information Routière: Situation



Messages panneaux lumineux

DATEX II Situation



received

understood

processed

activated

DATEX II VMS



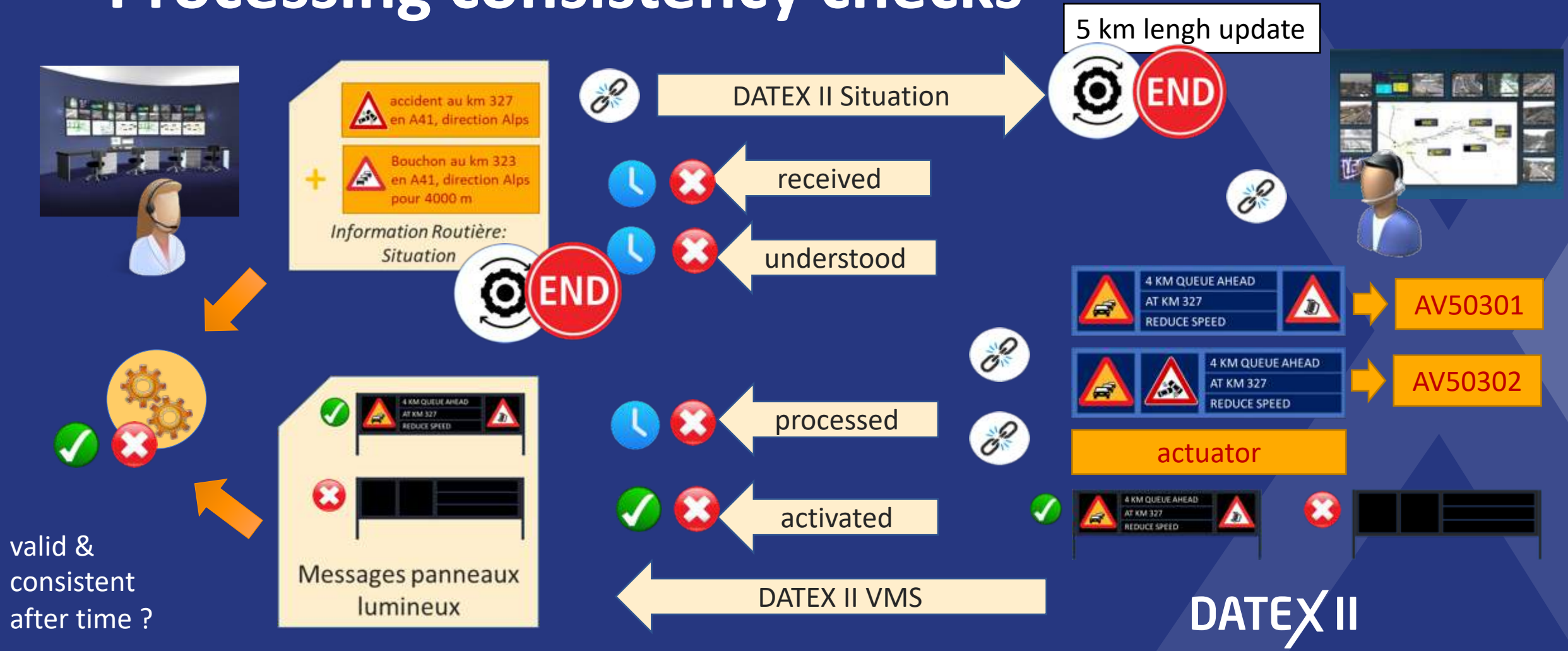
actuator

AV50301

AV50302

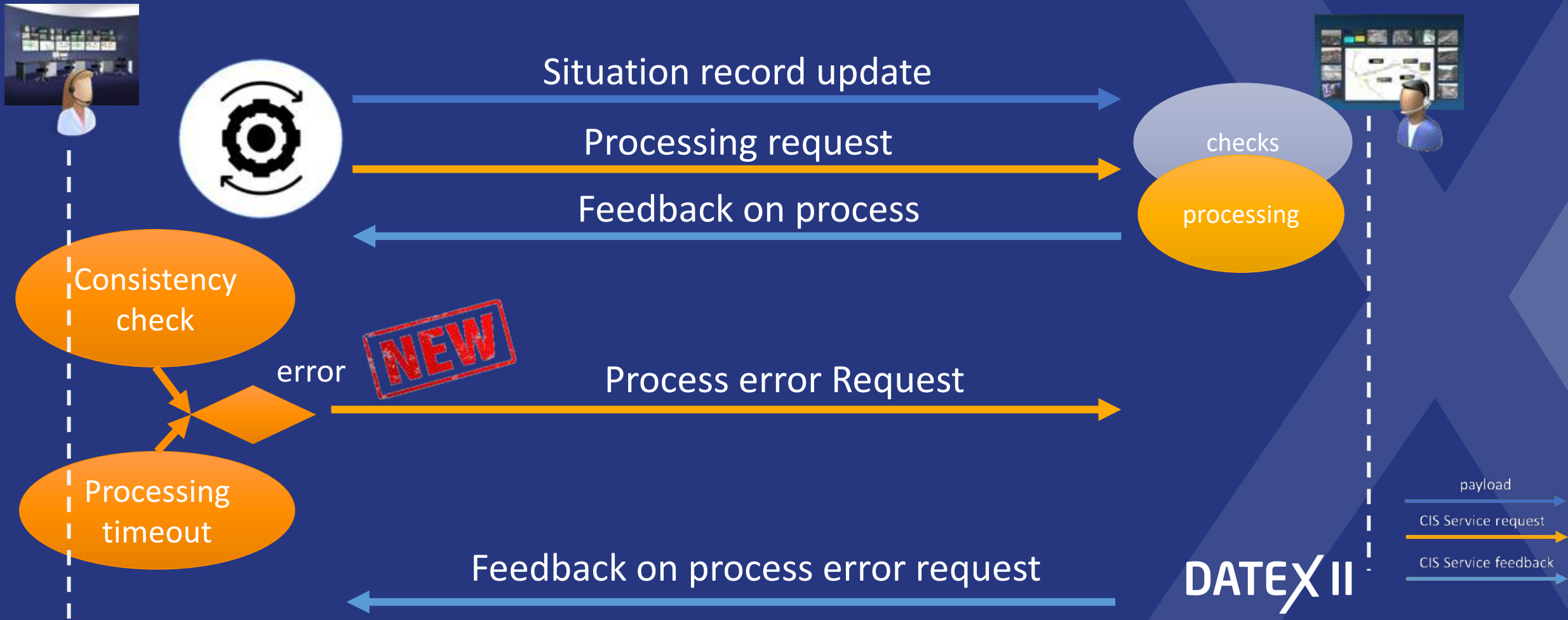
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# Processing consistency checks



valid & consistent after time ?

# Workflow management by CIS specs

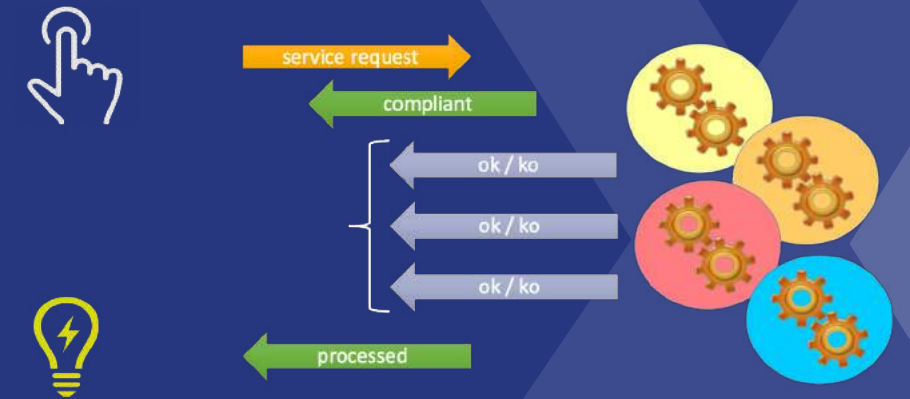


DATEX II

# Exchange 2020 Specs

1. Information Delivery
2. Information processing support
  - Activate Collaborative ITS Services
  - Feedback & Process Monitoring
3. Consistency Checks
  - **Raise Error Awareness**
4. Workflow Management
  - **Basic behaviour Single Action Simple CIS Activation**
  - **Further Workflow patterns to be assessed**

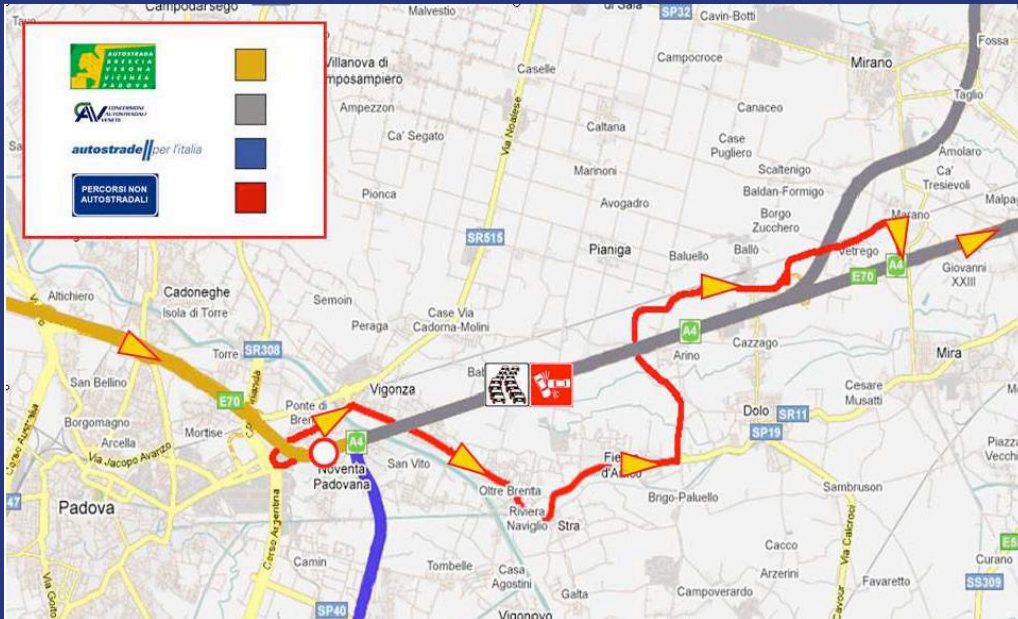
## Service Request Workflow Model



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# TMPlan management



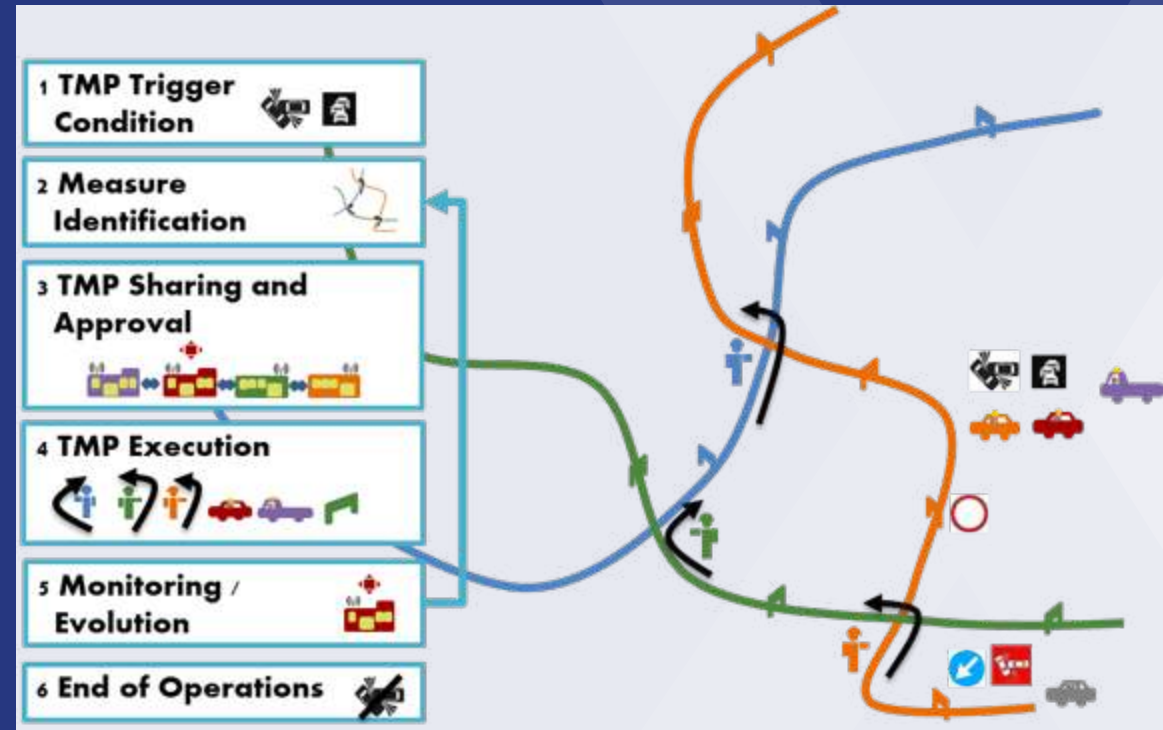
- TMPlan stands for Traffic Management Plans
- DATEX II TS 16157-8 deals with
  - Scenarios
  - Strategies
  - Measures
  - Actions
- Payload Content managed by DATEX II
- TMPlans have «Status» as well

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# Dealing with TMPlan evolutions

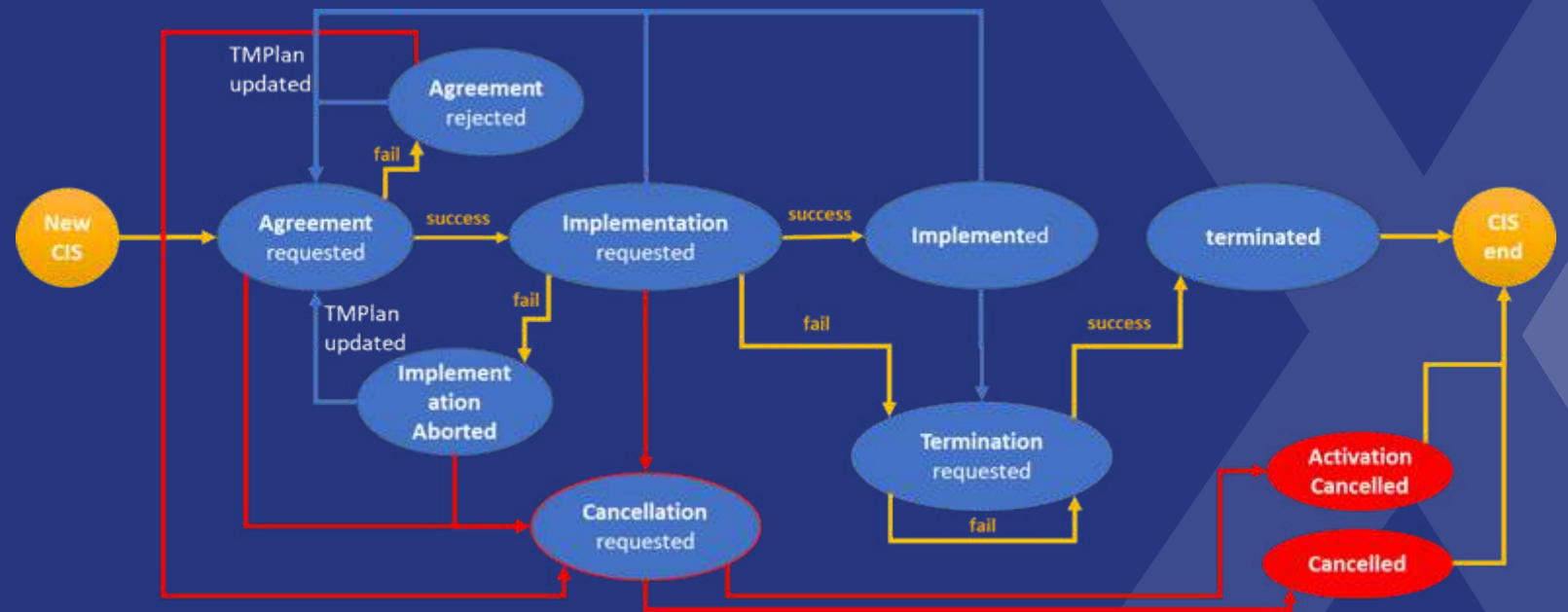
- Exchange 2020 CIS Specs
- It's a matter of handshaking !
  - Decision
  - Proposal - among several actors
  - Agreement
  - Implementation
  - Monitoring
  - Iterations as needed
- Sharing the same vision time after time
  - Exchange rules
  - Workflow management agreed



Workflow Error  
manegement ?

# Complex workflows description

- Complex situation handshaking process
- Workflow pattern definition
- **Agreed management to be harmonised standardised**



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# Conclusions

- DATEX II Exchange 2020 specs enable powerful means to implement Information Data Delivery and Collaborative ITS Services with consistency and process checks and feedback
- To support error on Traffic Management handshaking and for Complex Workflows extra rules at application level should be agreed and described
- Next Steps for the future
  - Requirement description collection
  - Processing pattern definition
  - Check controls definition
  - Management rules agreement
  - **Secure and Trusted environment +++**

Ecosystem or Network  
CIS Workflow  
Management

**NEW**

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Thanks for your attentions

DATEX II Act. 5

<https://datex2.eu/activity-5>

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