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XIII
INTERNATIONAL
WINTER ROAD
CONGRESS

QUÉBEC, FEBRUARY 8 TO 11, 2010

WORLD ROAD ASSOCIATION
MONDIALE DE LA ROUTE
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Québec

SUSTAINABLE WINTER SERVICE FOR ROAD USERS

Methods to generate Information on Weather- and Road Condition in Terms of specific road sections online as well as in the Vehicle for Driver and Traveler

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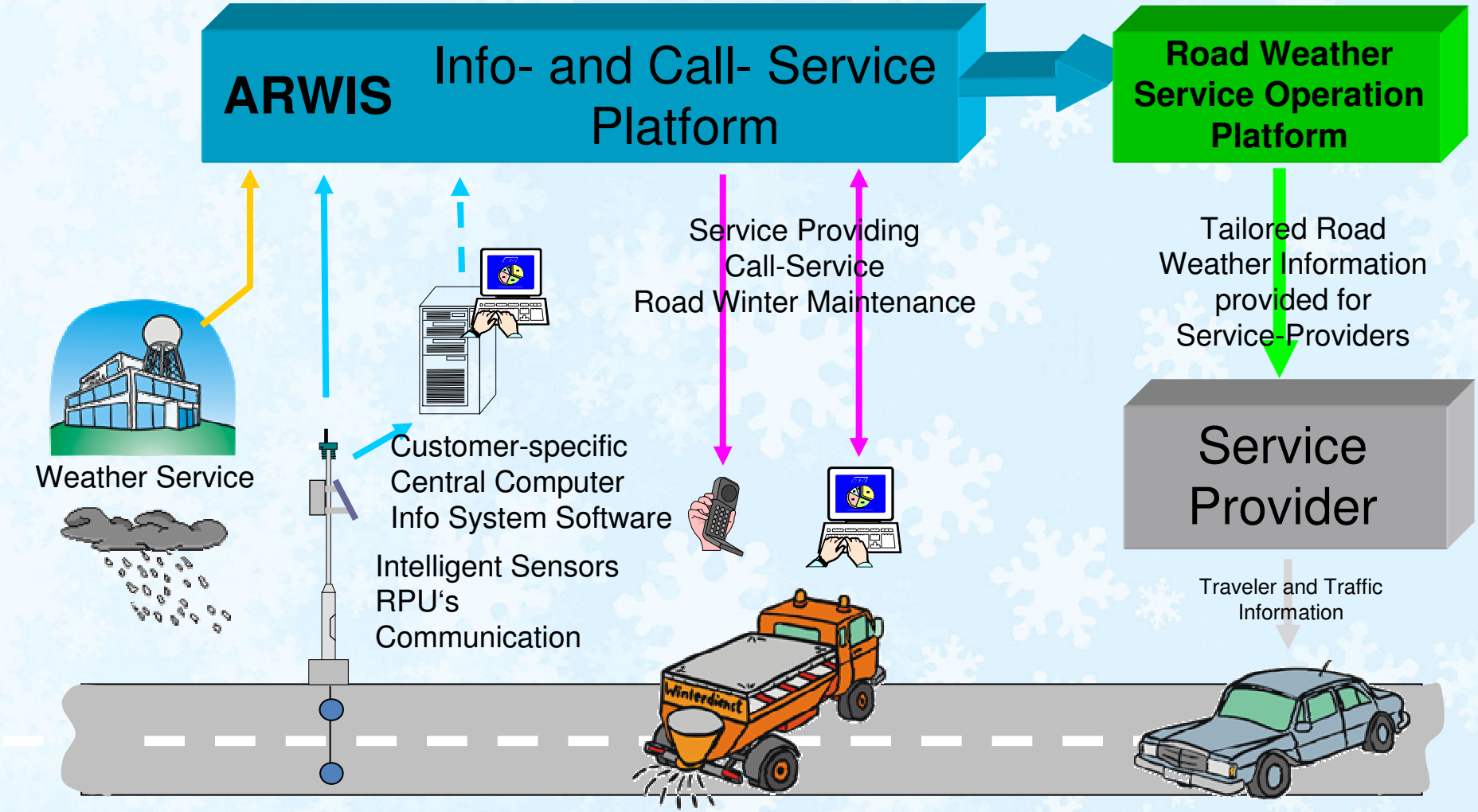
The Road Weather Information Policy



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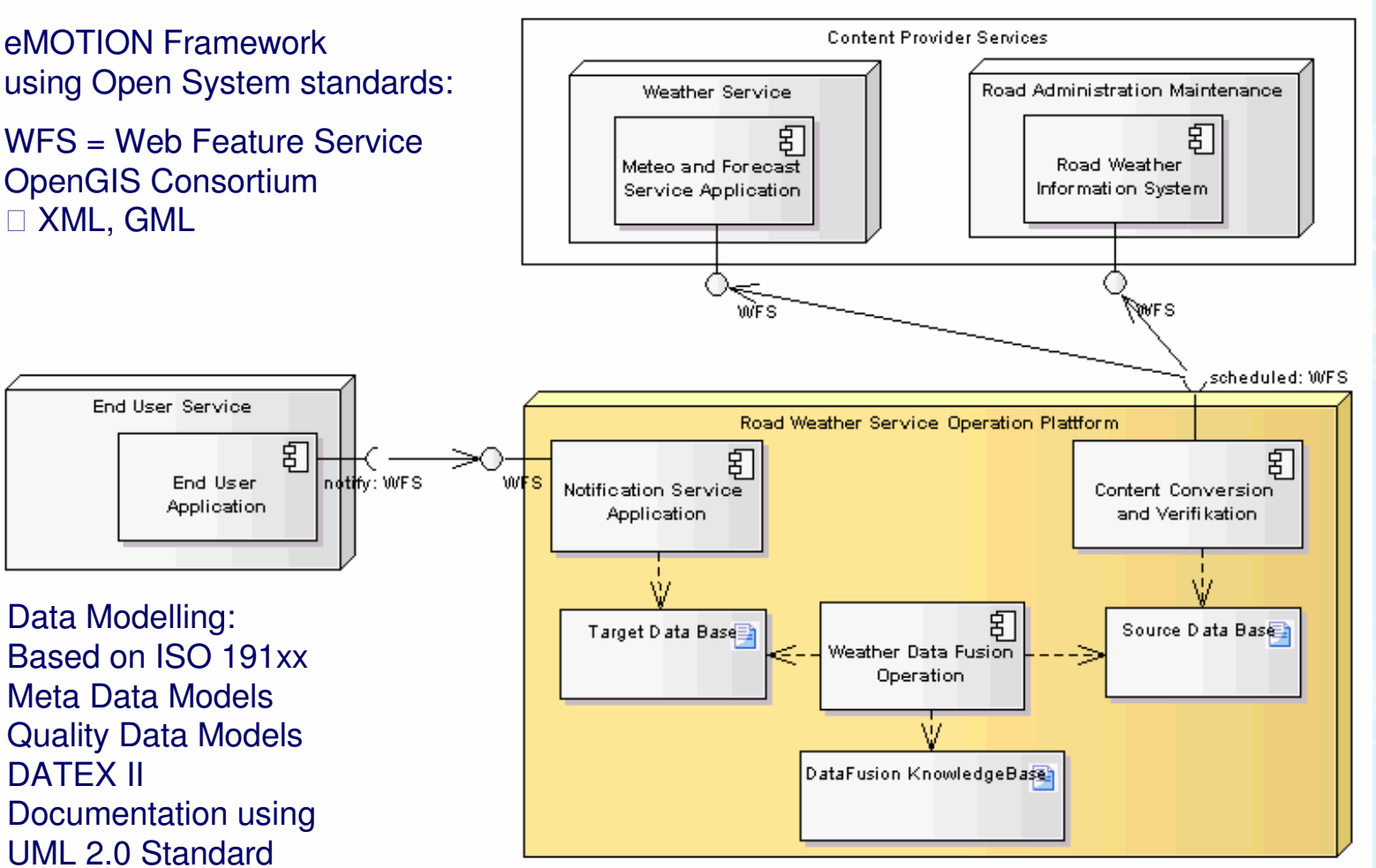
RWS-TTI Road Weather Service Operation Platform for Traveler and Traffic Information

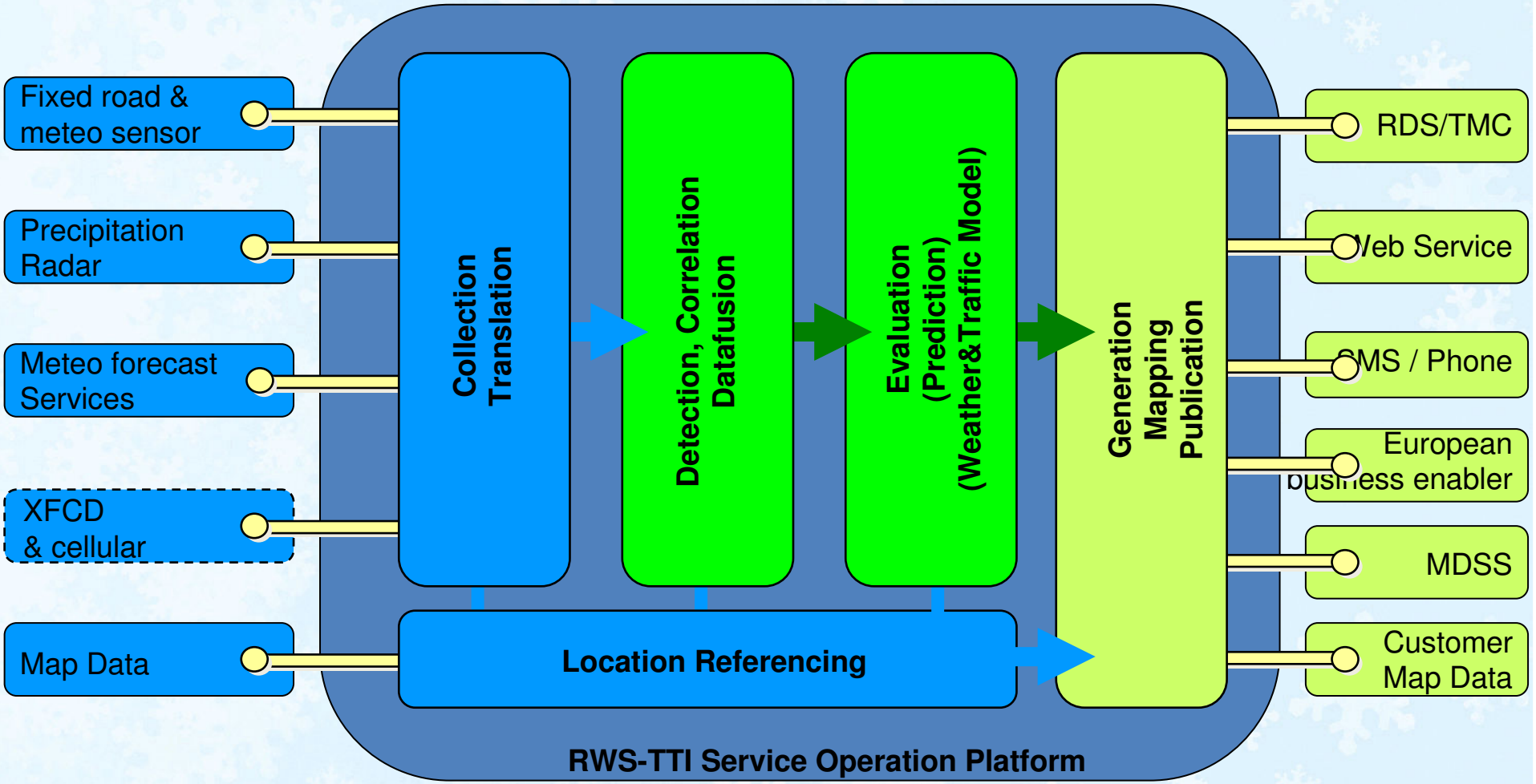
eMOTION Framework
using Open System standards:

WFS = Web Feature Service
OpenGIS Consortium
 XML, GML

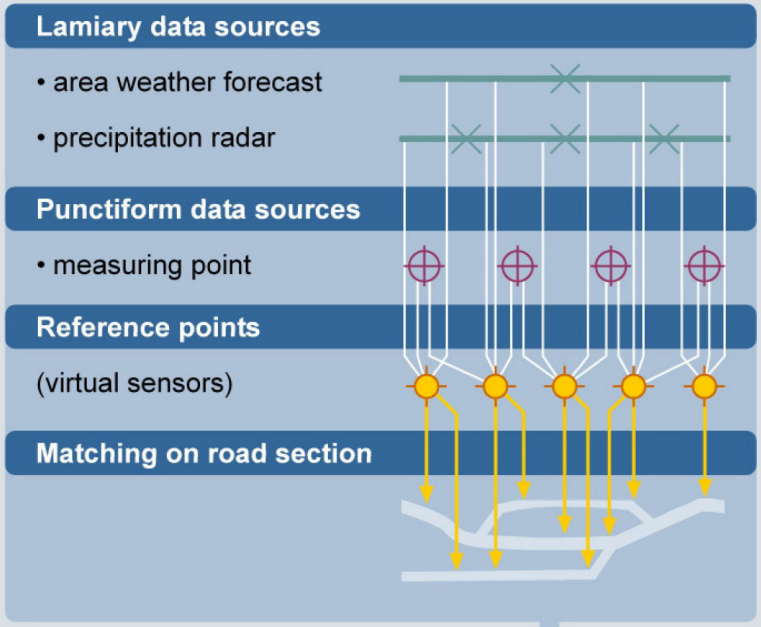


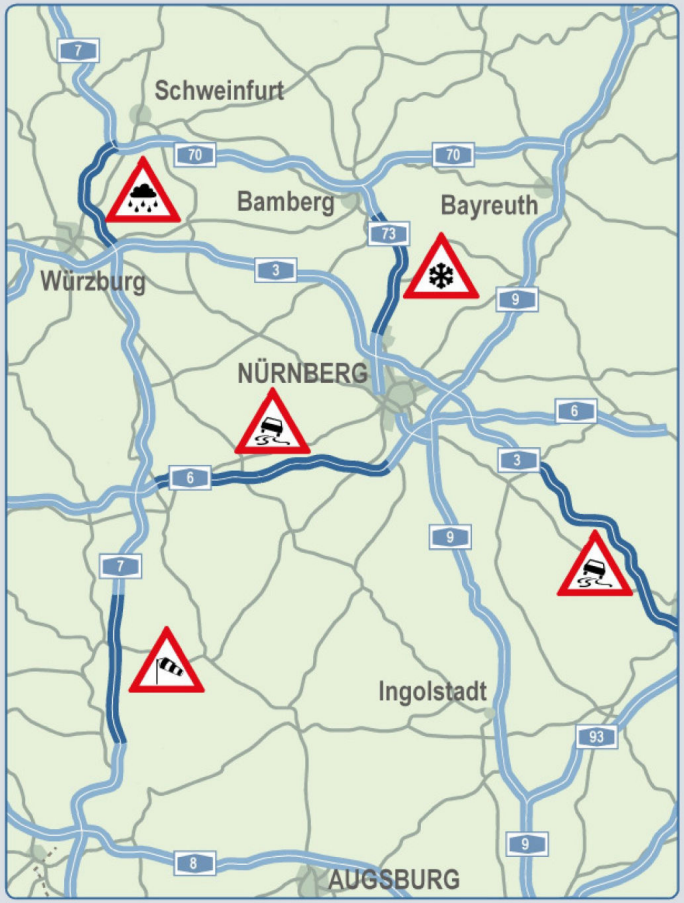
Data Modelling:
Based on ISO 191xx
Meta Data Models
Quality Data Models
DATEX II
Documentation using
UML 2.0 Standard

The Architecture of the Platform



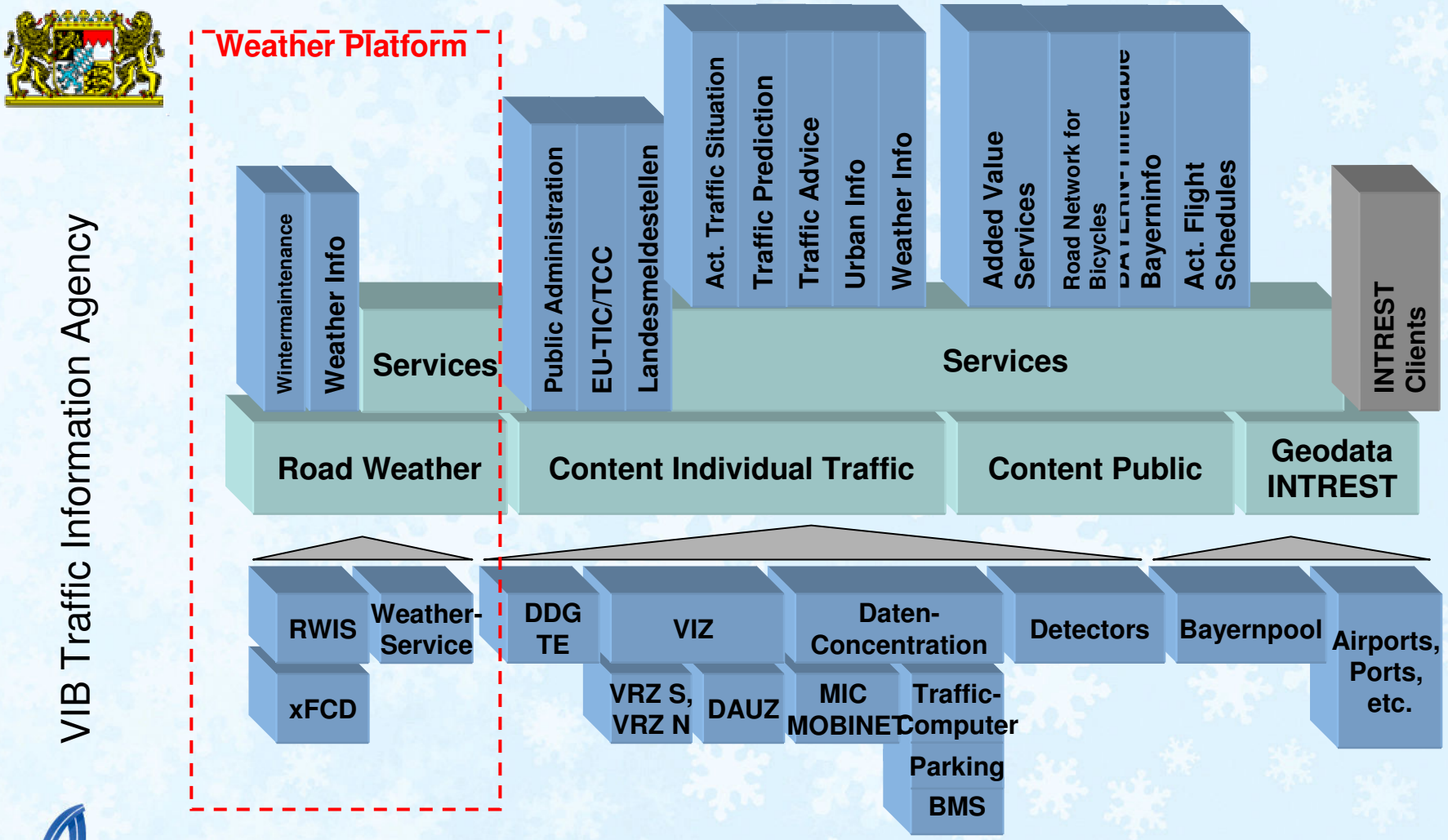
Geographical and Meteorological Data Fusion Knowledge Base



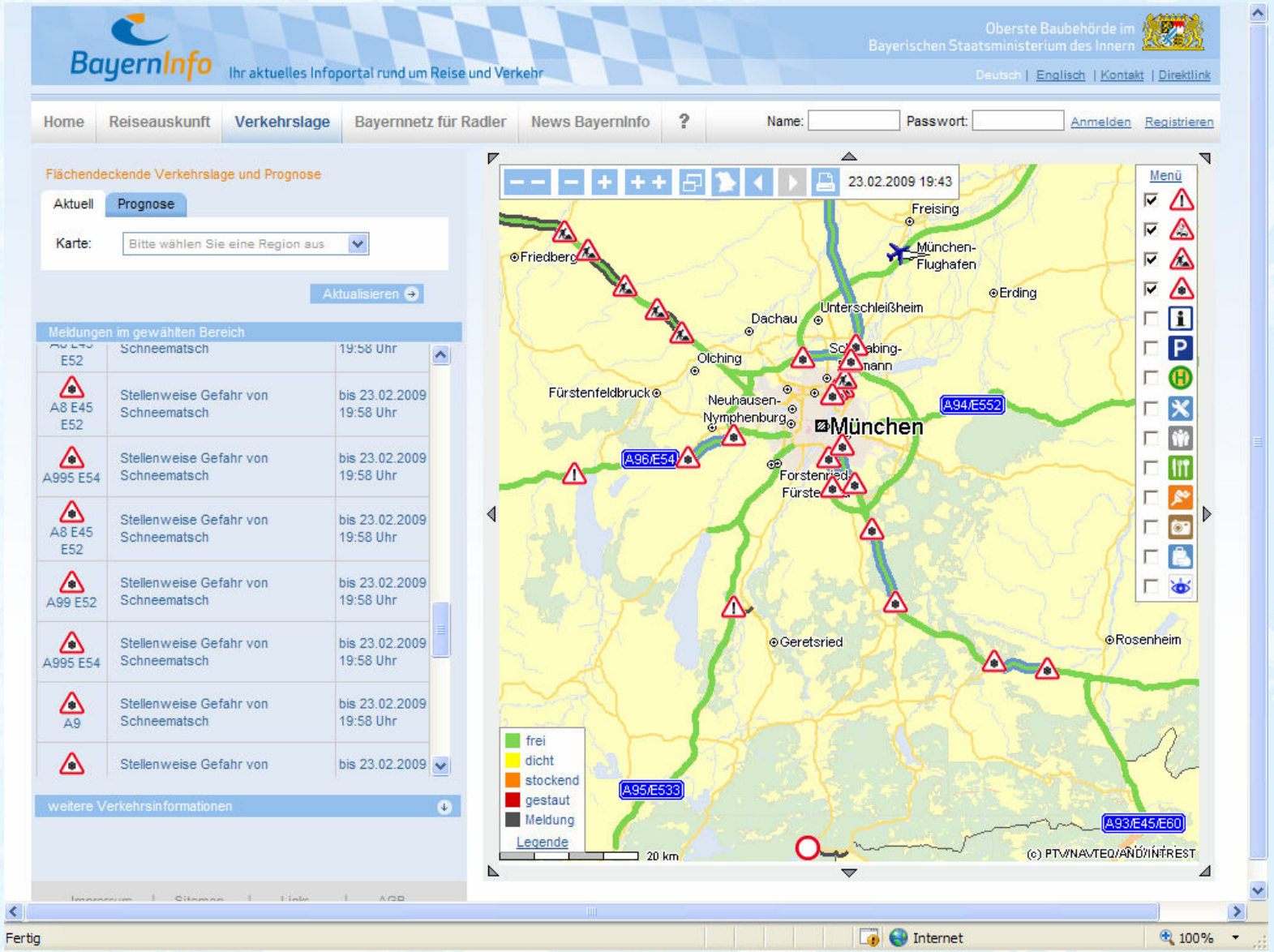


Different geographical referenced (laminary, punctiform, etc) Weather and Road Condition Data Sources with different actualization time schedules as well as event driven Data are processed to generate accurate high resolution Road Weather Information by means of a Data Fusion Matrix = Knowledge Base

VIB The Bavarian Traffic Information Agency
The Weather Platform



VIB www.bayernInfo.de Front End
Road link referenced TMC Weather Warnings



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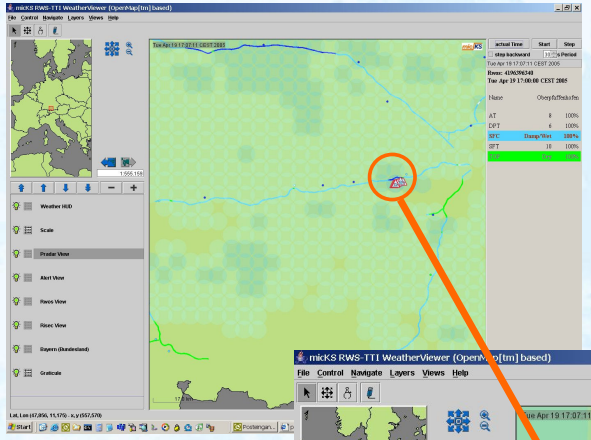
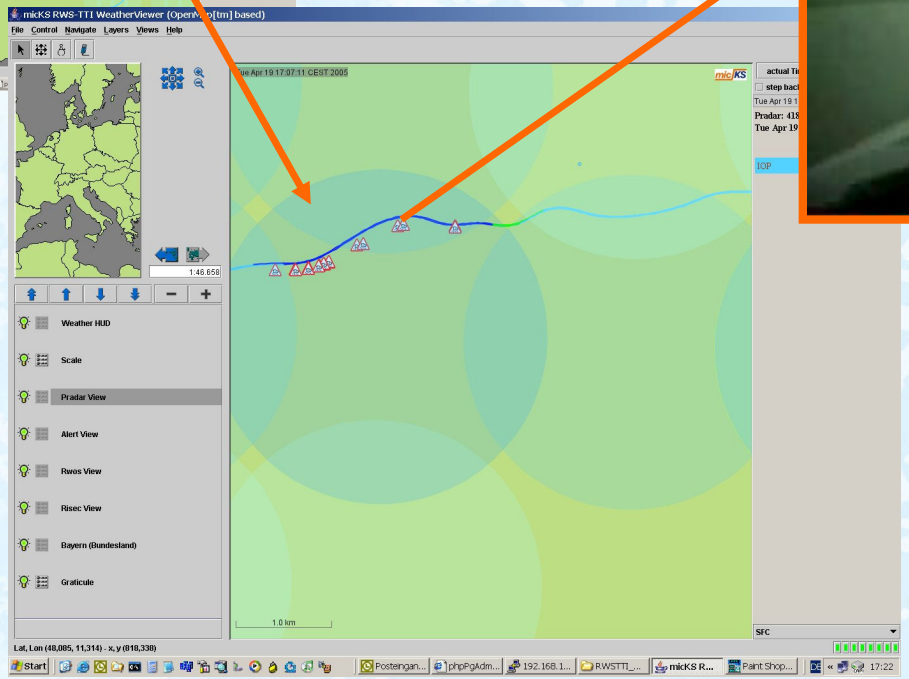
Example of an authentic situation





ALERT-C Message:

Precipitation

2005 April 19. 17:00
A96 / Oberpfaffenhofen

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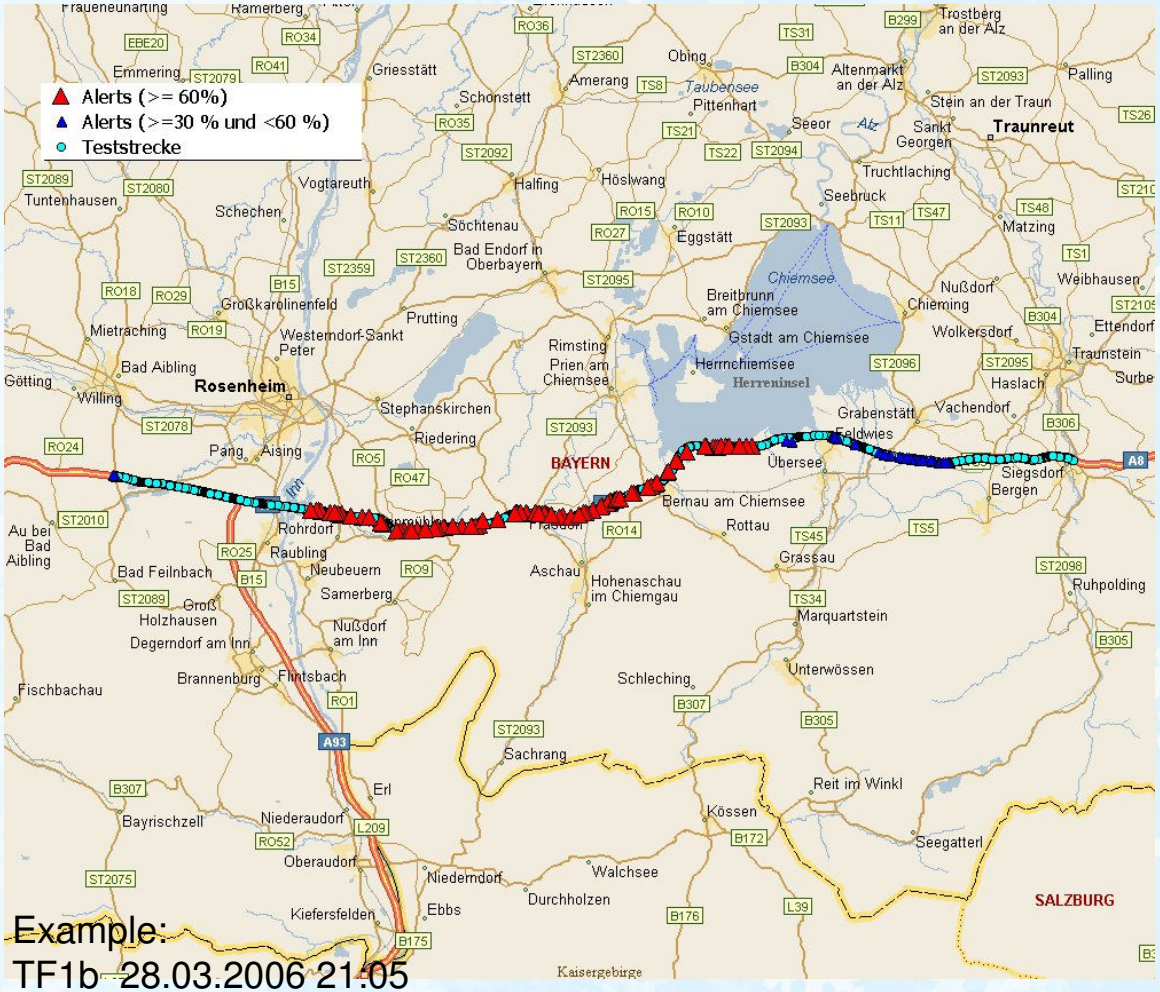
Quality management by means of XFCD observation tours



Example:
TF1b 28.03.2006 21:05

To meet the high requirements of a premium service, a constant, automatic quality measurement and evaluation takes place which is based on defined quality scores for message and service quality. For that purpose, data from surveying and probe collecting tours by XFCD vehicles from BMW are summoned.

		Q-Kennzahlen	
		30%	30%
	Idealwert	Aquaplaning	Regen
K	100%	99%	83%
KE	100%	100%	83%
KF	0%	0%	17%

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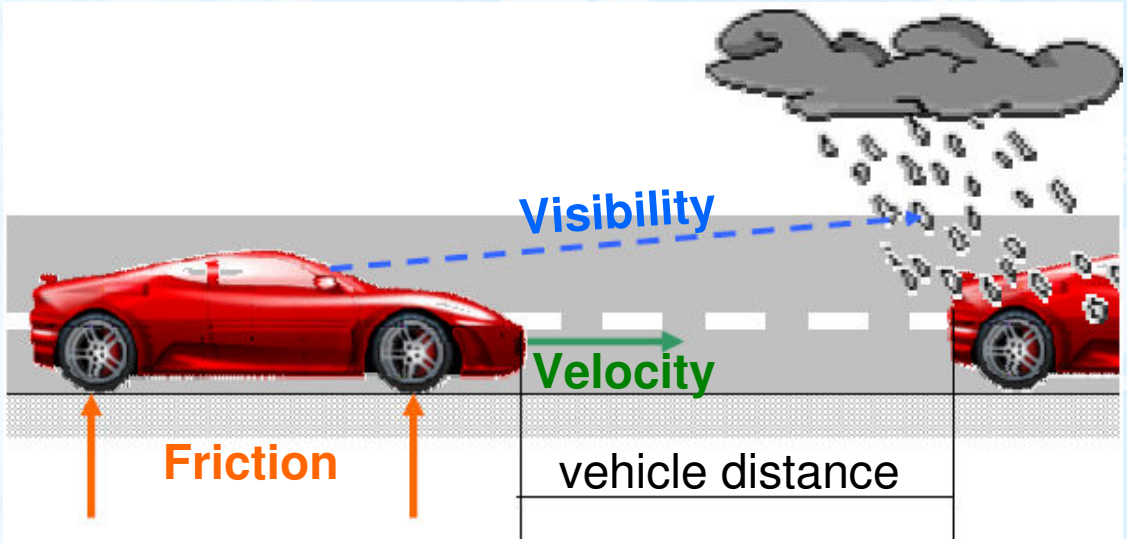
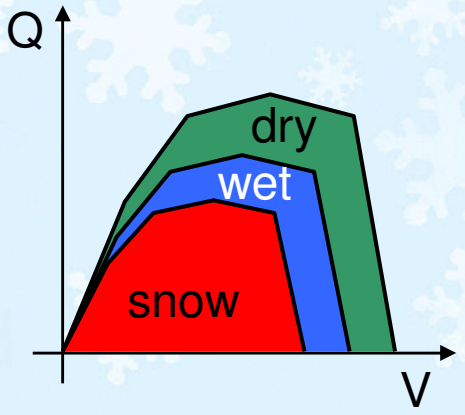
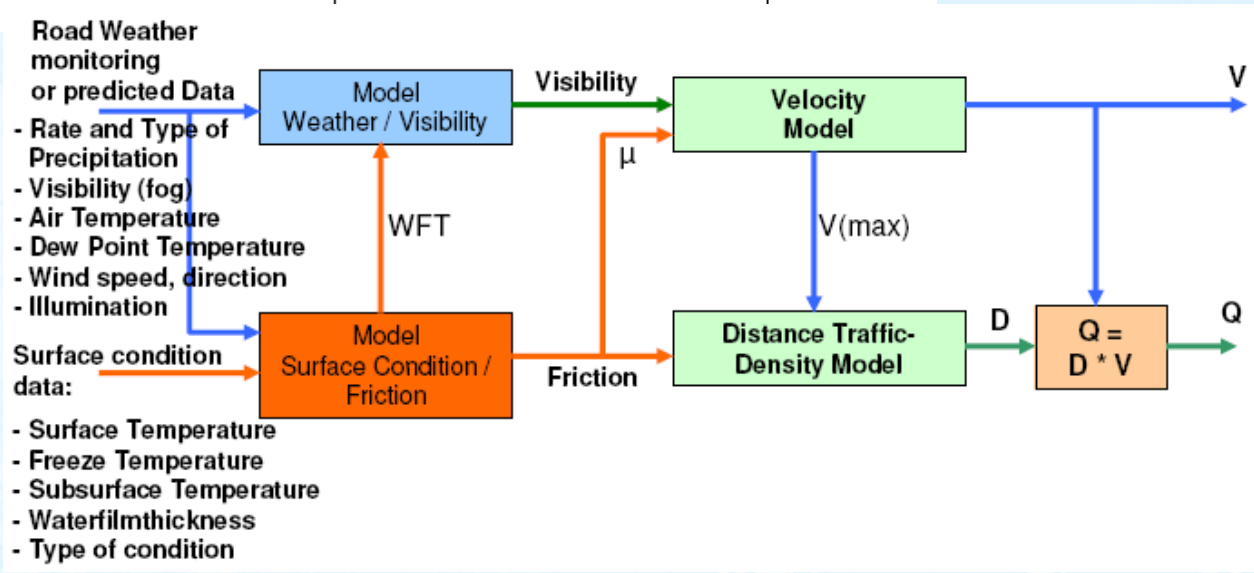
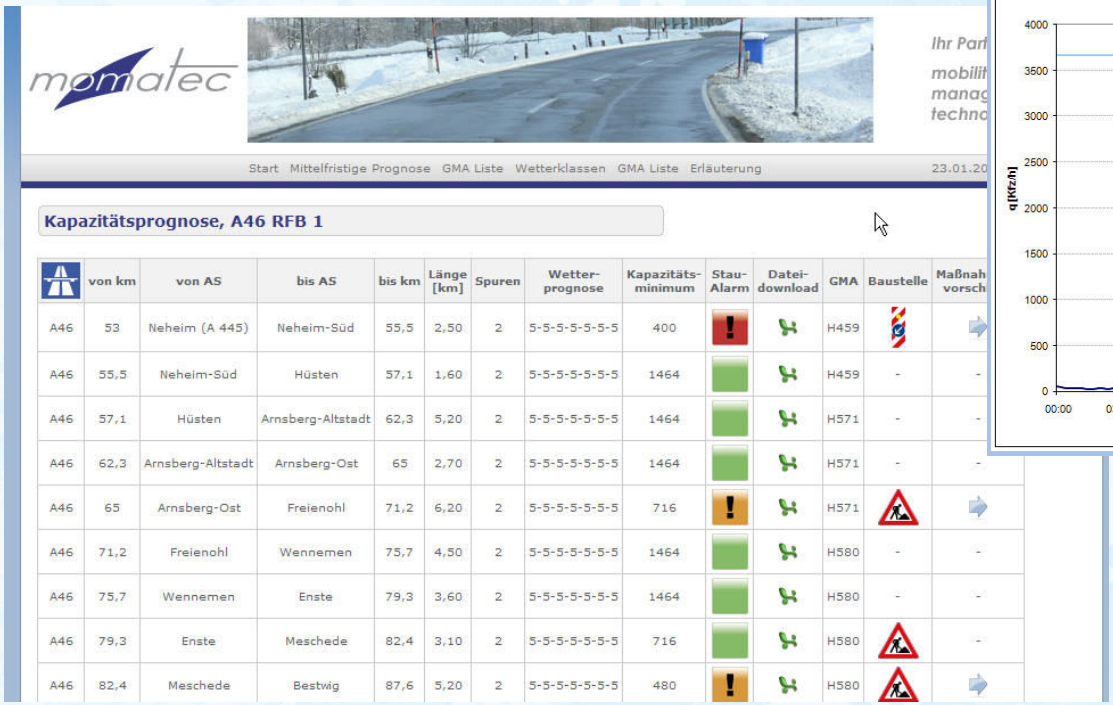
Modeling Road Weather impact on Traffic Flow



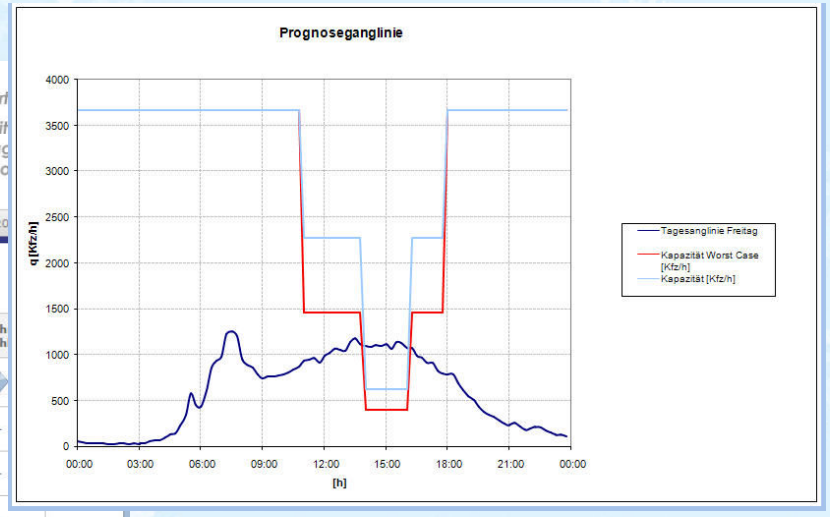




Maintenance Decision Support Application congestion prevention at winter maintenance



	von km	von AS	bis AS	bis km	Länge [km]	Spuren	Wetter-prognose	Kapazitäts-minimum	Stau-Alarm	Datei-download	GMA	Baustelle	Maßnah vorsch
A46	53	Neheim (A 445)	Neheim-Süd	55,5	2,50	2	5-5-5-5-5-5-5	400	!		H459		
A46	55,5	Neheim-Süd	Hüsten	57,1	1,60	2	5-5-5-5-5-5-5	1464			H459	-	-
A46	57,1	Hüsten	Arnsberg-Altstadt	62,3	5,20	2	5-5-5-5-5-5-5	1464			H571	-	-
A46	62,3	Arnsberg-Altstadt	Arnsberg-Ost	65	2,70	2	5-5-5-5-5-5-5	1464			H571	-	-
A46	65	Arnsberg-Ost	Freienohl	71,2	6,20	2	5-5-5-5-5-5-5	716	!		H571		
A46	71,2	Freienohl	Wennemen	75,7	4,50	2	5-5-5-5-5-5-5	1464			H580	-	-
A46	75,7	Wennemen	Enste	79,3	3,60	2	5-5-5-5-5-5-5	1464			H580	-	-
A46	79,3	Enste	Meschede	82,4	3,10	2	5-5-5-5-5-5-5	716			H580		-
A46	82,4	Meschede	Bestwig	87,6	5,20	2	5-5-5-5-5-5-5	480	!		H580		



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SUSTAINABLE WINTER SERVICE FOR ROAD USERS

Thank you for your attention

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Lufft micKS