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TESTING INSTRUMENTS

NZRF/RIAA Road marking Conference and Exhibition 2011

Novotel Hotel Rotorua
24th and 25th August 2011

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A little bit of history and the newest testing instruments for road markings

Peter Zehnter
Owner & Managing Director
Zehntner GmbH Testing Instruments

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100 years of road markings

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45 years Zehntner

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Zehntner now

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Zehntner innovation history

ZRM 1011
1981

First with electrical standard positioning system

ZRM 1012
1987

Distance 15m

ZRM 1012
1998

Distance 30m

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Zehntner innovation history

ZRM 1013
1999

First combined instrument for R_L and Qd

ZRM 1013+
2001

First with wet timer
First with detailed report A4
First with automatic self diagnostic

ZRM 6013
2006

First with LED illumination
First with temperature and humidity

ZRM 6014
2010

First with colour touch-screen
First with a camera in the same geometry
First with level-meter and compass

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Alternative device
ZRM 6006

- Very simple operation over one button (incl. On/Off button)
- Measure accurate R_L and Qd in about 2 seconds
- Long battery live
- Compact and robust design

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Devices to measure pavement markings according to EN 1436

- Hand-held devices

ZRM 6014

- Dynamic measurement system

ZDR 6020

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Hand-held device
ZRM 6014

- Measure R_L and Qd in 2 sec.
- Compact, elegant, but also robust design
- Transfer and analysis of measured on PC provided

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Dynamic measurement system ZDR 6020

- Measures like the hand-held device R_L
- Measures in a short time a wide area
- Welcome analysis of the measurement data over PC provided

- Easy handling and visualisation of measurement data
- Direct generating of reports

ZDR 6020

ZRM 6014

Mapping Tools

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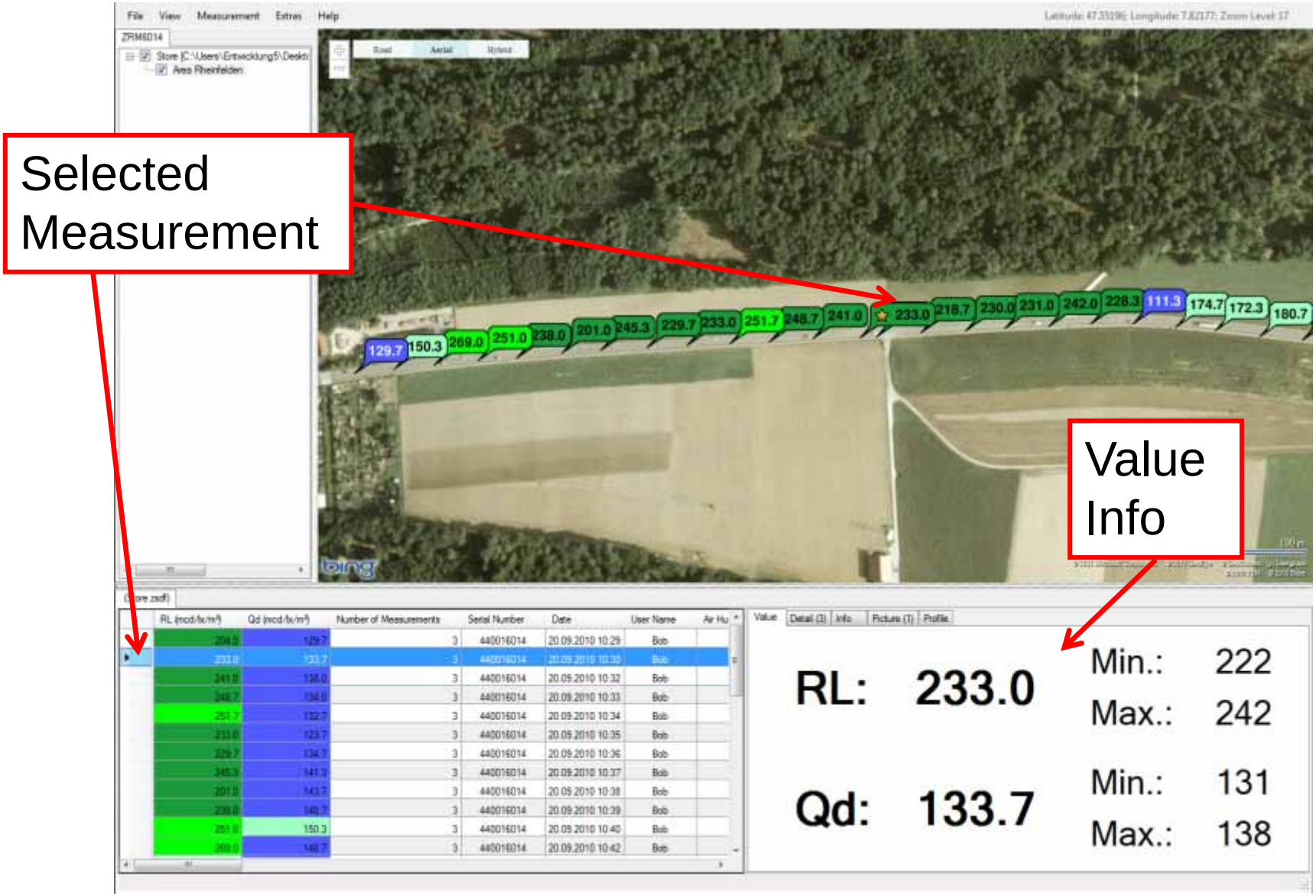
Overview ZRM 6014 measurement



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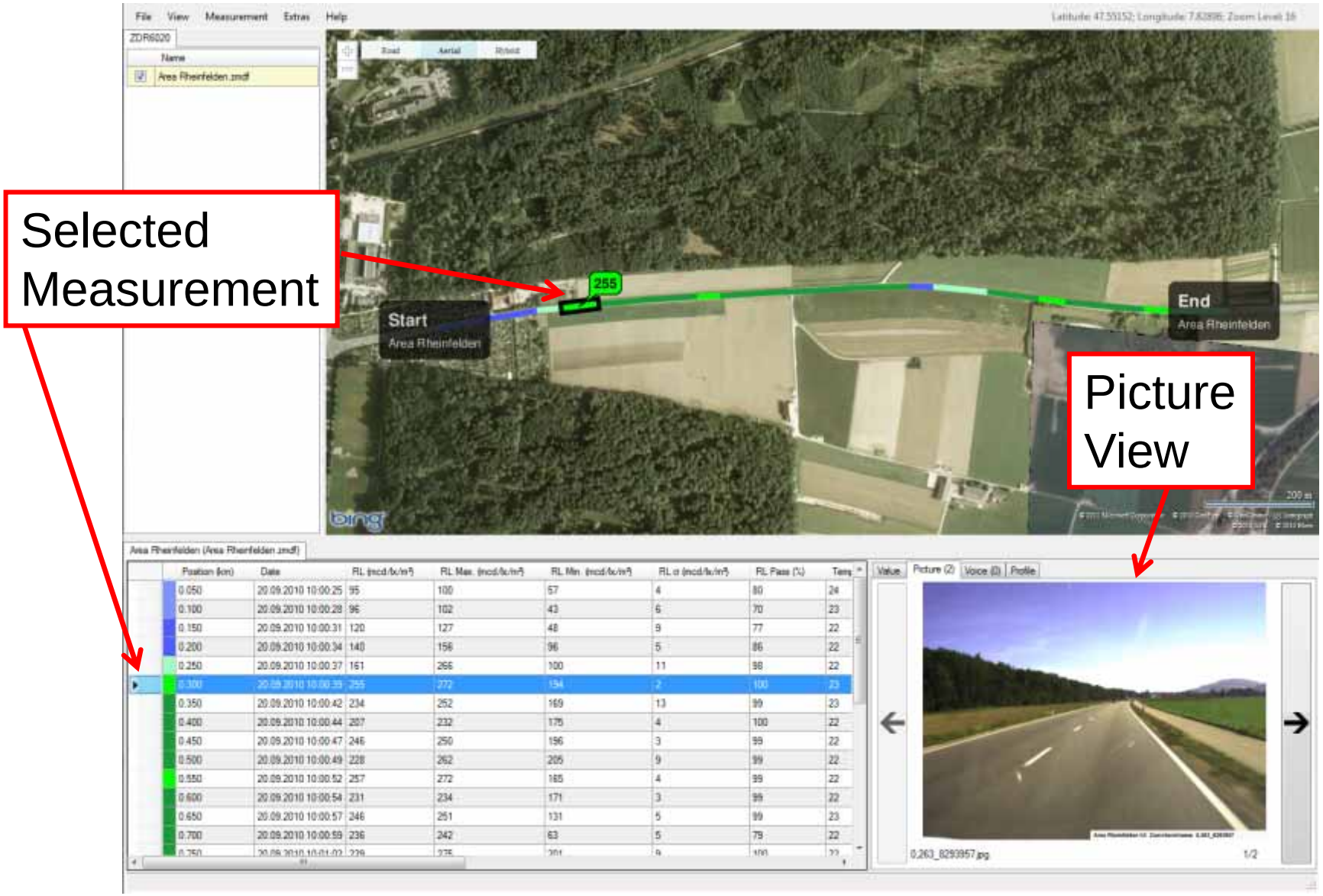
Overview ZDR 6020 measurement



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Comparison measurement for example ZDR 6020 and ZRM 6014

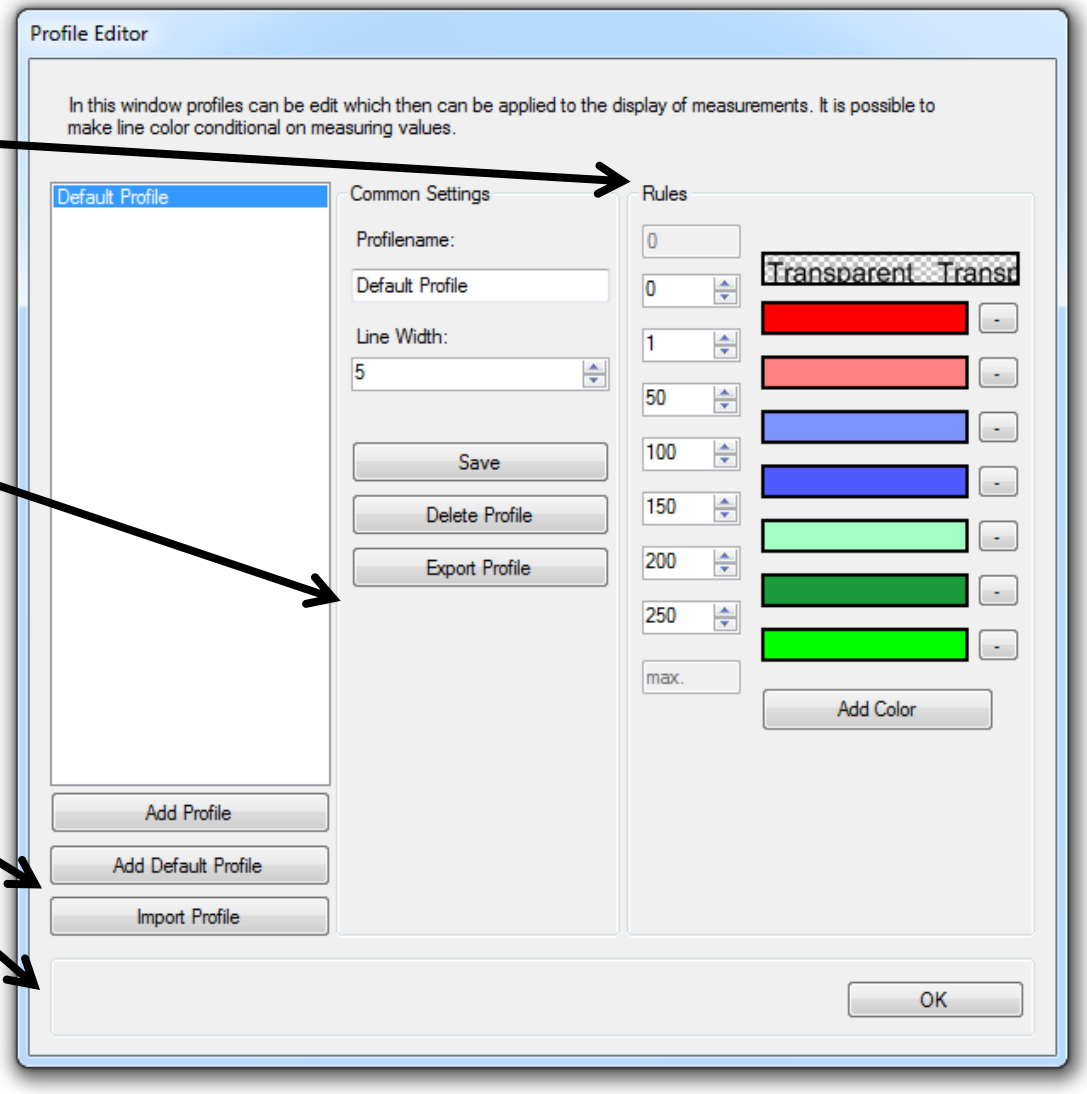
ZRM 6014 measurement value

ZDR 6020 measurement section

Individual Visualisation

free definition of the quality levels

several profiles extendable with export and import possibility



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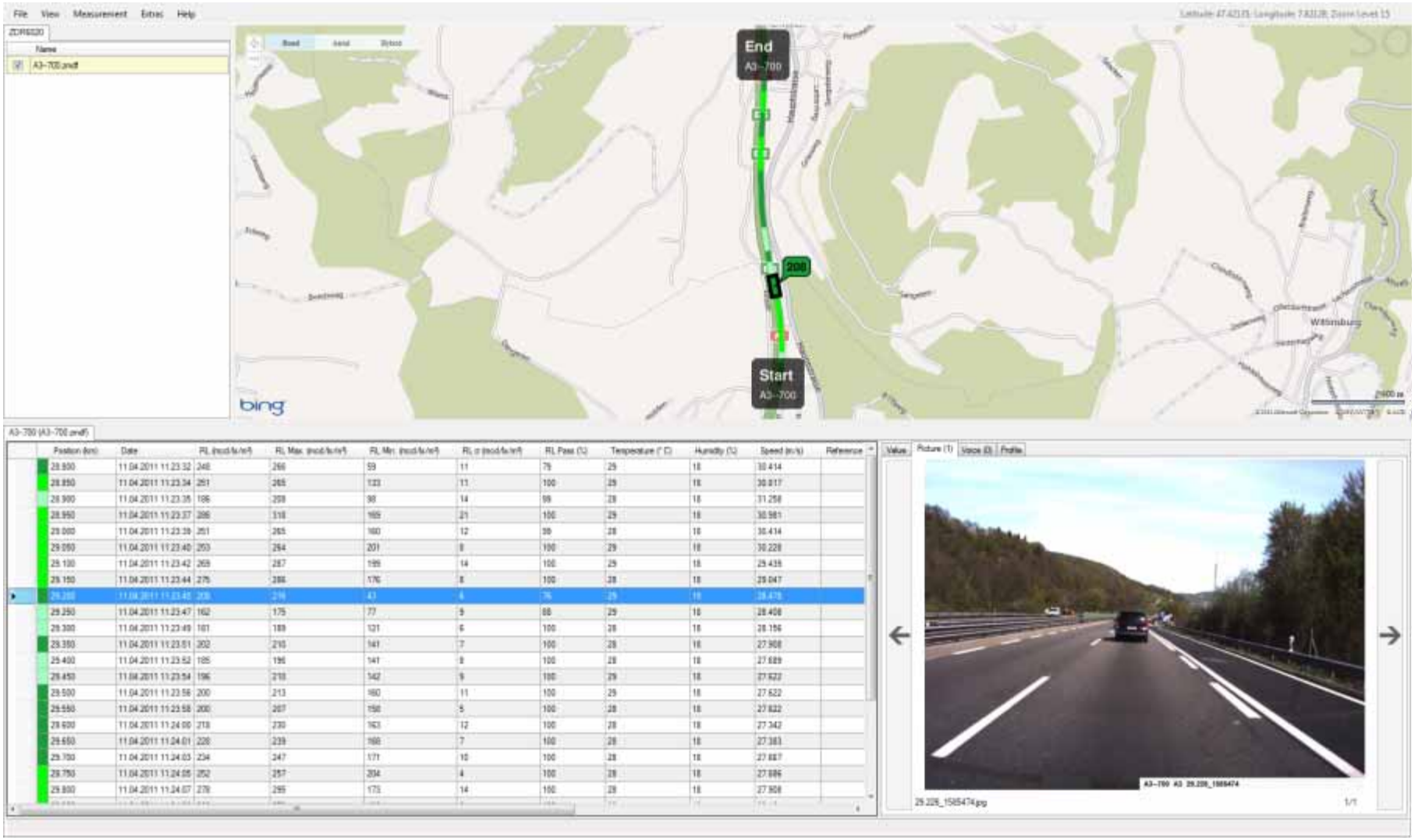
ZDR 6020 measurement animated



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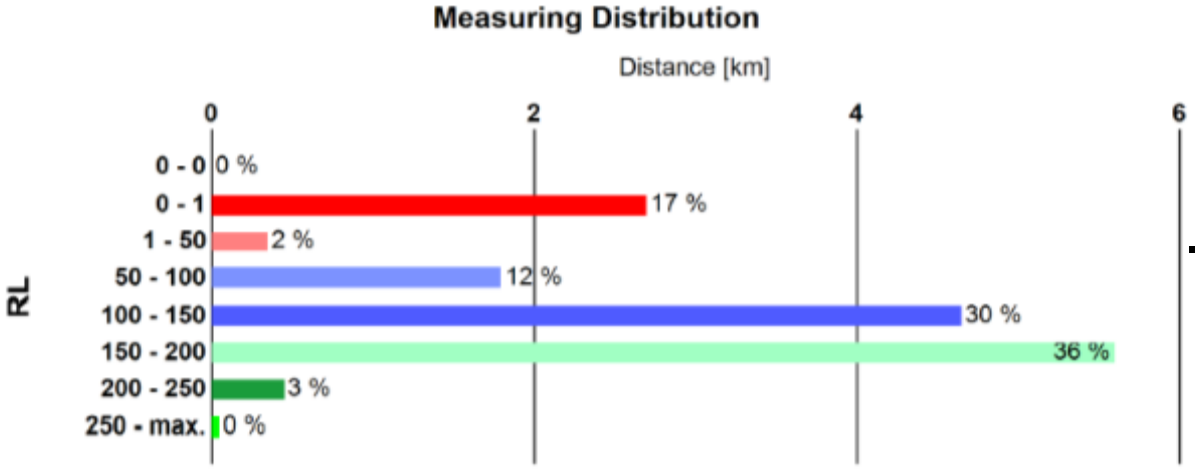
Zehntner Mapping Tools measurement report

Graphical Illustration of the measurement values based on the individual configurable quality level



Measuring distribution of the whole test run according to the quality levels

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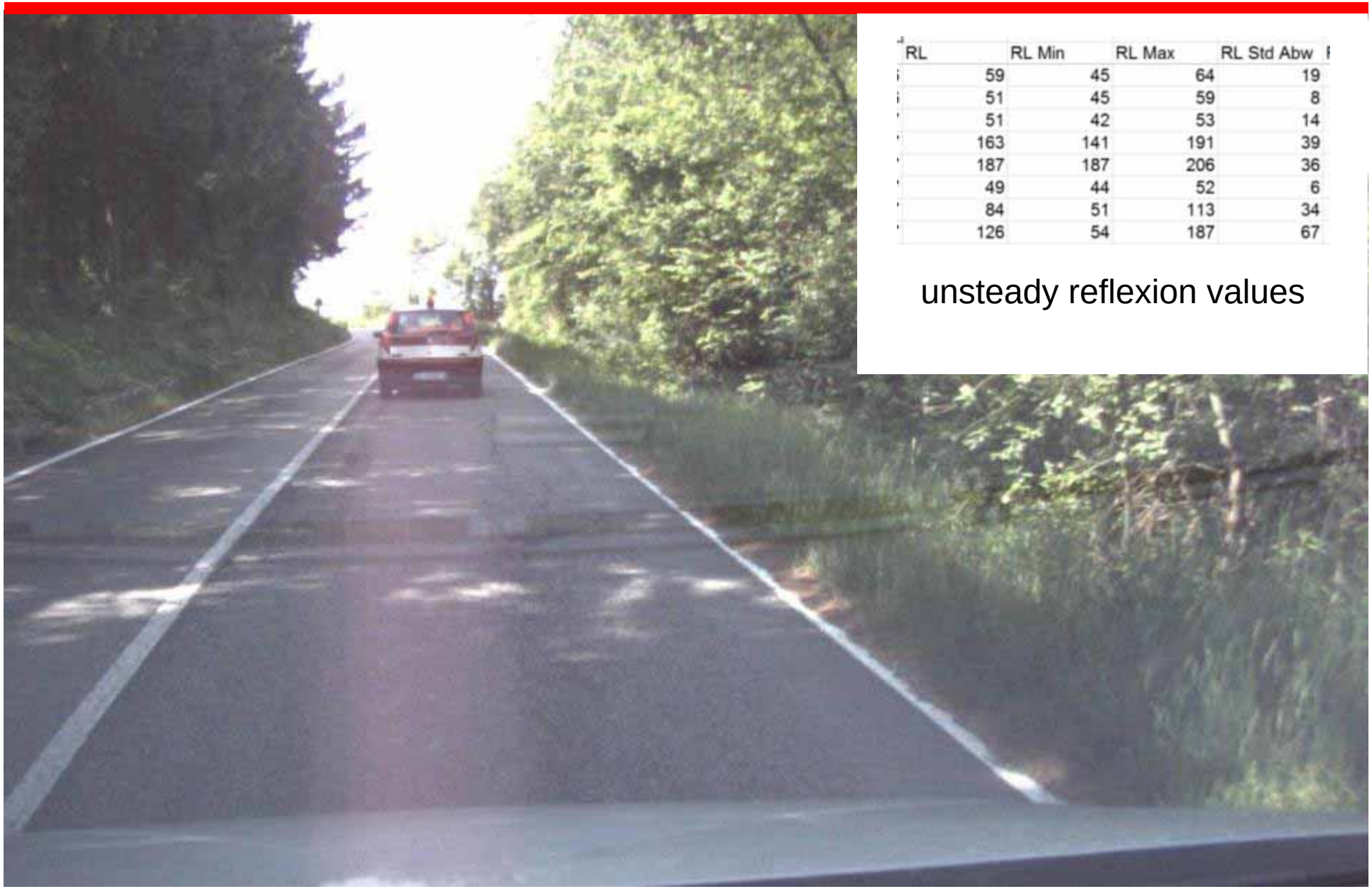
ZDR 6020 example road side reflexion



RL	RL Min	RL Max	RL Std Abw
59	45	64	19
51	45	59	8
51	42	53	14
163	141	191	39
187	187	206	36
49	44	52	6
84	51	113	34
126	54	187	67

unsteady reflexion values

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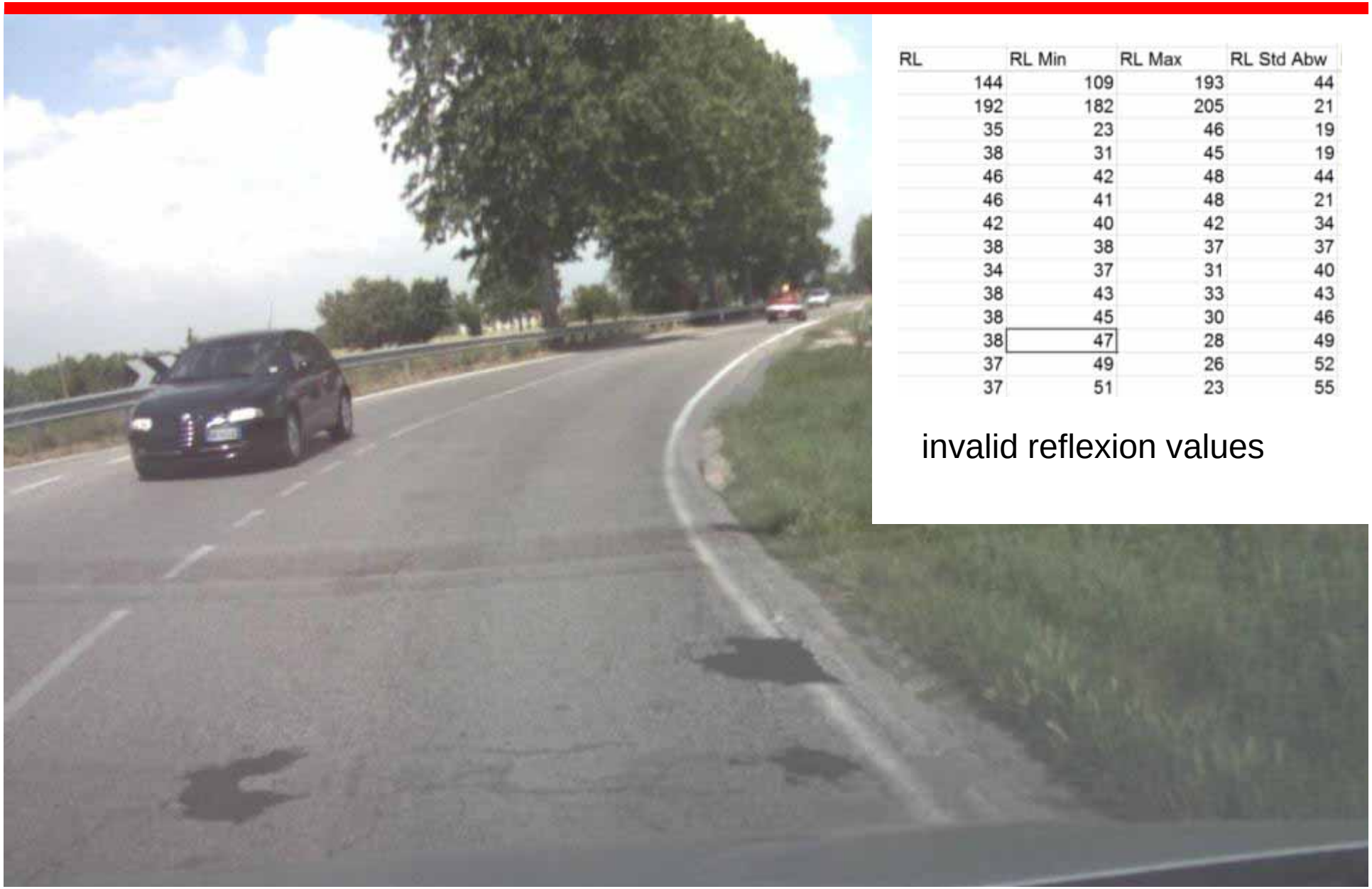
ZDR 6020 example road side reflexion



RL	RL Min	RL Max	RL Std Abw
144	109	193	44
192	182	205	21
35	23	46	19
38	31	45	19
46	42	48	44
46	41	48	21
42	40	42	34
38	38	37	37
34	37	31	40
38	43	33	43
38	45	30	46
38	47	28	49
37	49	26	52
37	51	23	55

invalid reflexion values

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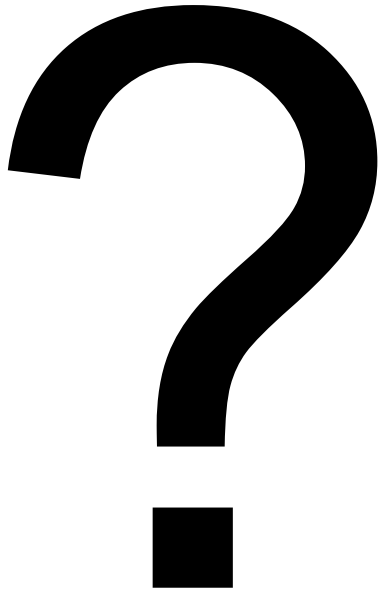

For questions please refer to booth KADCAM

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