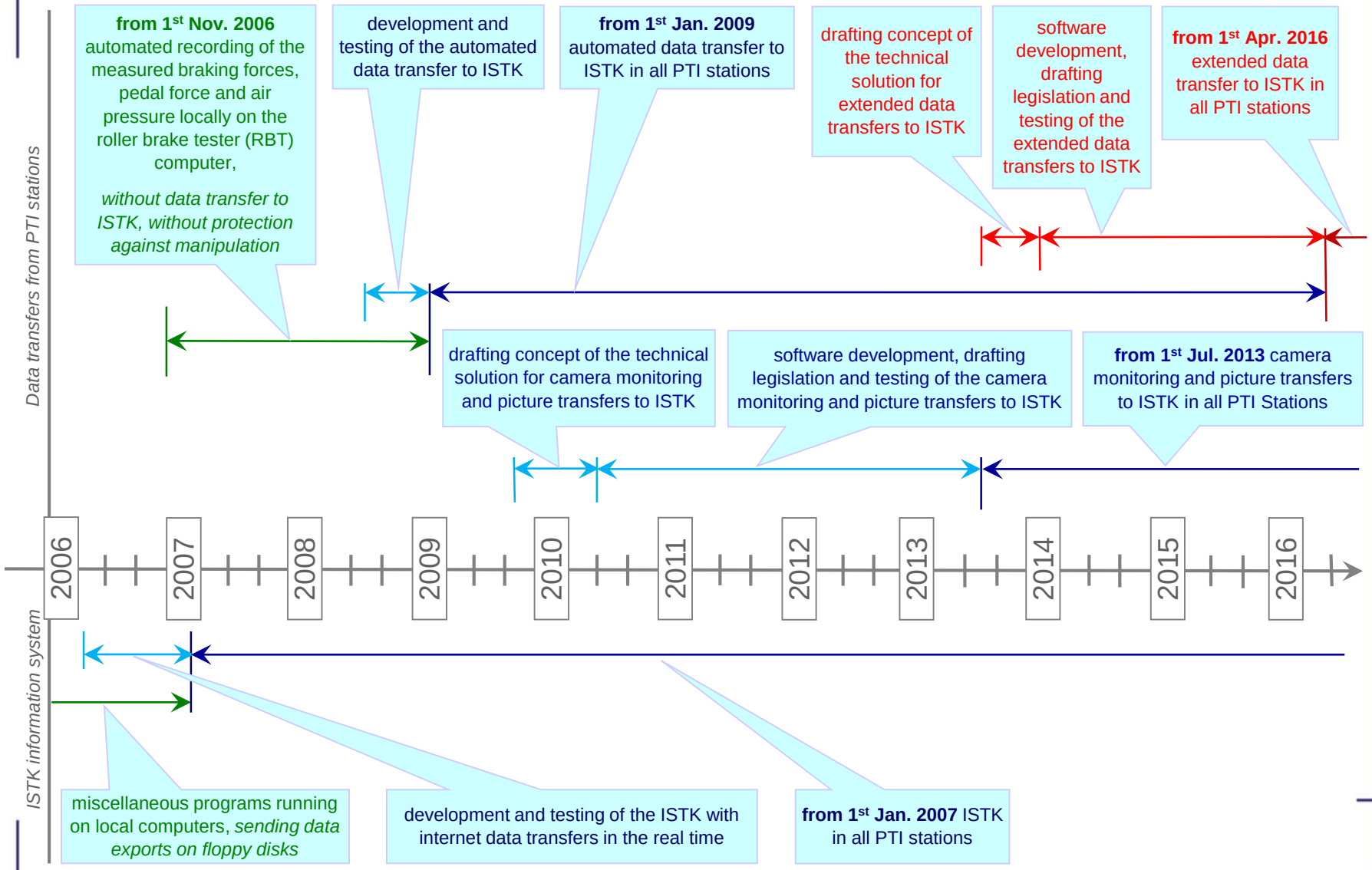
CITA WG1 Meeting, Klettwitz (Germany), 11.5.2016

PTI in Slovakia: Extended scope of data transferred from roller brake testers into the central information system

Marián Rybianský

The Slovak PTI information system ISTK: 10 years of technical innovations



Extended scope of data transferred from roller brake testers

„Old" data transfer before 1st April 2016

Roller brake tester (RBT)

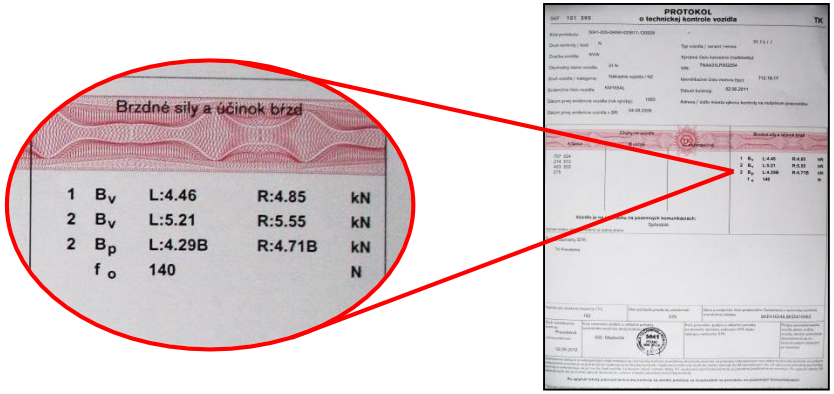
Set of transferred values

F_{ped} (N),
1,2,3,... F_B L/R (kN),
1,2,... F_{park} L/R (kN),
p_m/p (kPa)

Brake test evaluation done by ISTK user

ISTK server

PTI report



Extended scope of data transferred from roller brake testers

New scope of transferred data from 1st April 2016

- Values of brake force and pedal force (hydraulic systems) or air pressure (pneumatic systems) from the whole service brake test measurement (at least 30 seconds) recorded with sampling frequency 10 Hz
- Values of brake force from the whole parking brake test measurement (at least 5 seconds) recorded with sampling frequency 10 Hz
- Pressure in every brake circuit (pneumatic systems)
- Information about the reaching of wheel lock during measurement (for service brake and for parking brake)
- Brake force fluctuation (for service brake only)
- „Passive resistance“ value – self inflicted braking effect without any activation of the brake pedal
- Maximum difference between the brake force on left and right side of the axle
- Difference between the brake force on left and right side of the axle at the maximum brake forces measured

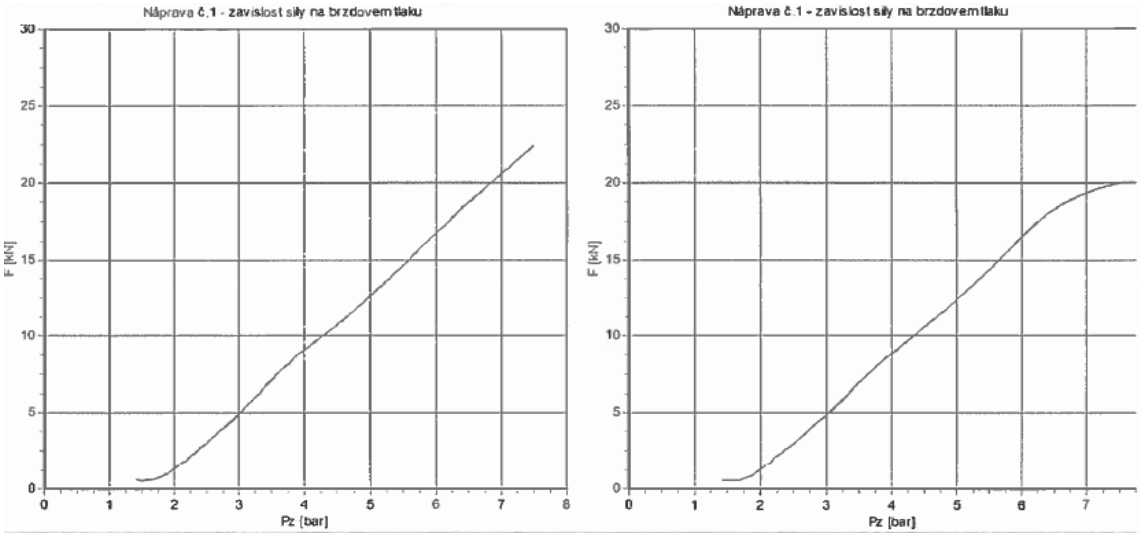
Extended set of transferred values

Example of 2 seconds service brake test measuring

Meranie nápravy č. X - prevádzková brzda

Čas	Brzdná sila ľavé koleso (Bv L)	Brzdná sila pravé koleso (Bv P)	Ovládacia s	Brzdný tlak (po L)	Brzdný tlak maximálny (po P)
9.10.2013 10:23:00,0	1,23	1,28	60	430	1020
9.10.2013 10:23:00,1	1,24	1,29	61	431	1021
9.10.2013 10:23:00,2	1,25	1,30	62	432	1022
9.10.2013 10:23:00,3	1,26	1,31	63	433	1023
9.10.2013 10:23:00,4	1,27	1,32	64	434	1024
9.10.2013 10:23:00,5	1,28	1,33	65	435	1025
9.10.2013 10:23:00,6	1,29	1,34	66	436	1026
9.10.2013 10:23:00,7	1,30	1,35	67	437	1027
9.10.2013 10:23:00,8	1,31	1,36	68	438	1028
9.10.2013 10:23:00,9	1,32	1,37	69	439	1029
9.10.2013 10:23:01,0	1,33	1,38	70	440	1030
9.10.2013 10:23:01,1	1,34	1,39	71	441	1031
9.10.2013 10:23:01,2	1,35	1,40	72	442	1032
9.10.2013 10:23:01,3	1,36	1,41	73	443	1033
9.10.2013 10:23:01,4	1,37	1,42	74	444	1034
9.10.2013 10:23:01,5	1,38	1,43	75	445	1035
9.10.2013 10:23:01,6	1,39	1,44	76	446	1036
9.10.2013 10:23:01,7	1,40	1,45	77	447	1037
9.10.2013 10:23:01,8	1,41	1,46	78	448	1038
9.10.2013 10:23:01,9	1,42	1,47	79	449	1039
9.10.2013 10:23:02,0	1,43	1,48	80	450	1040

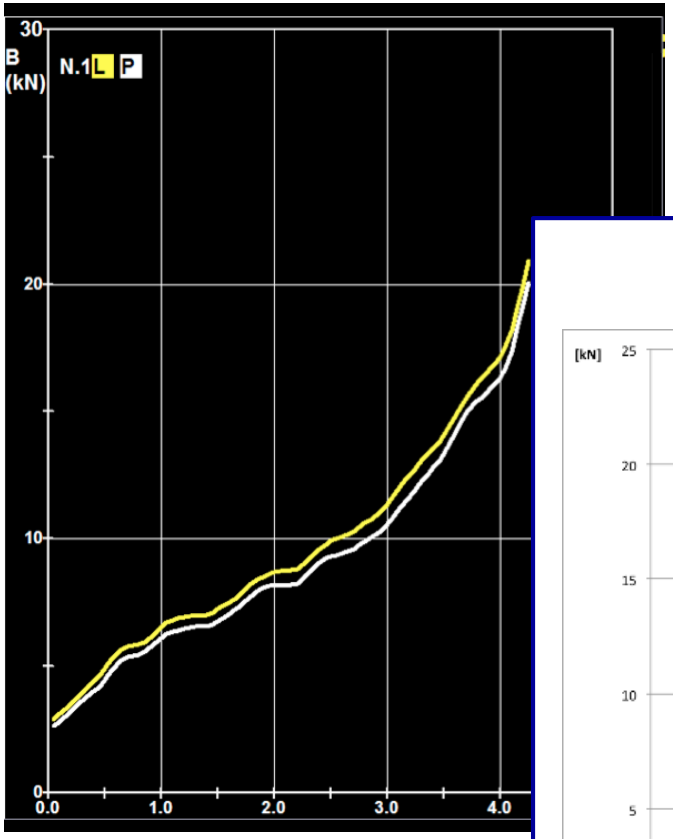
Graphic representation of the transferred data



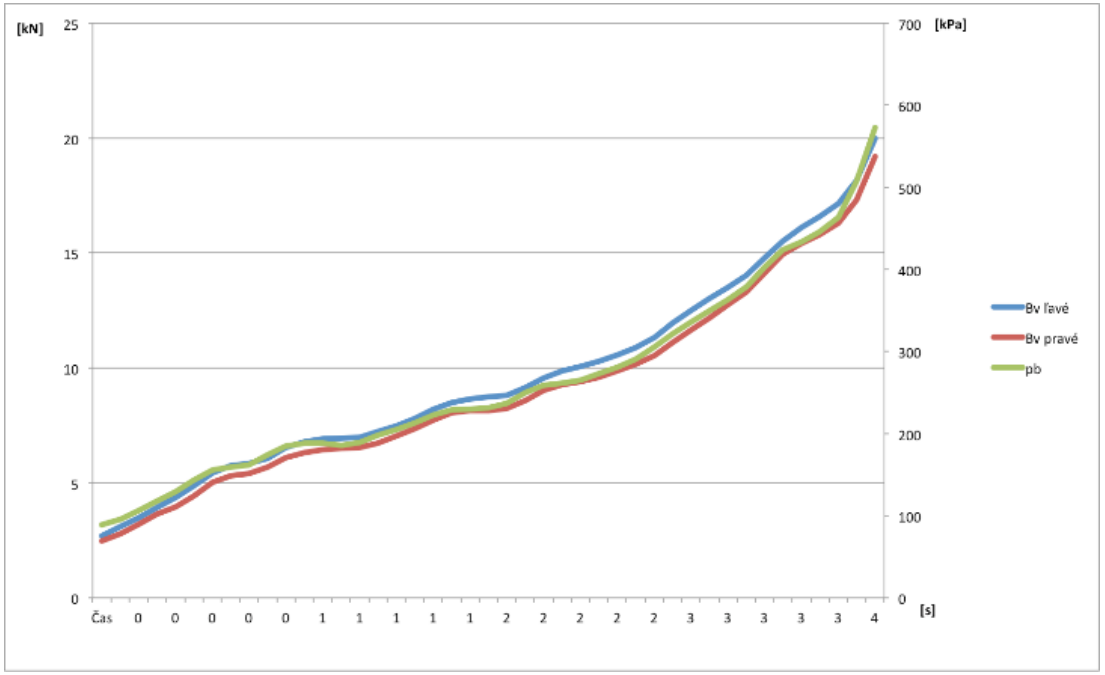
Extended scope of data transferred from roller brake testers

Comparison of the graph displayed by RBT and transferred data

Brake test: RBT mfd. by Roboterm



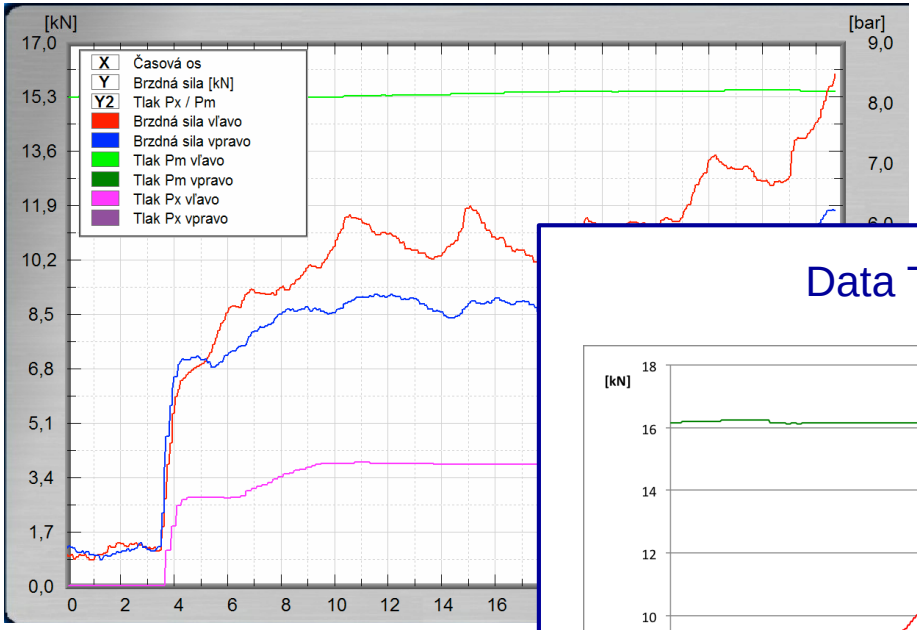
Data Transferred to ISTK system



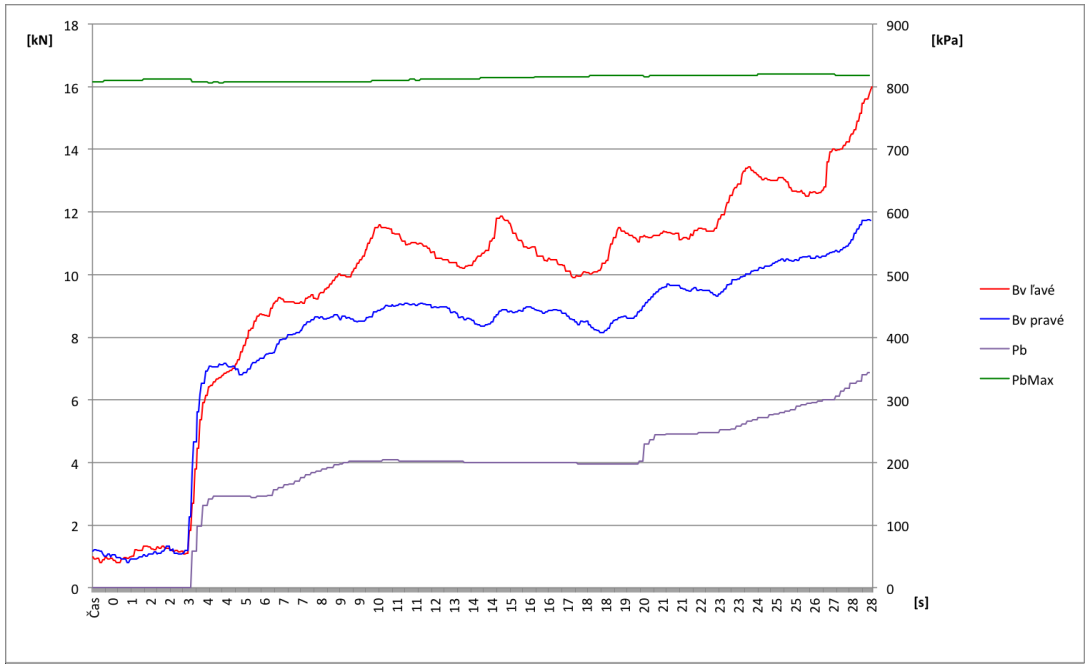
Extended scope of data transferred from roller brake testers

Comparison of the graph displayed by RBT and transferred data

Brake test: RBT mfd. by MAHA



Data Transferred to ISTK system

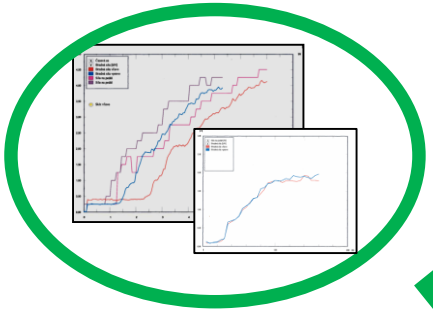


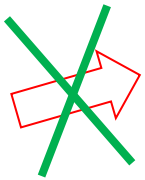
Extended scope of data transferred from roller brake testers

Final stage of the new extended data transfer

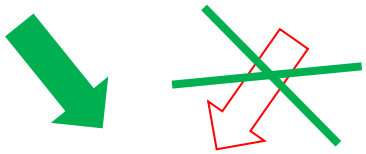
Roller brake tester (RBT)

Extended set of transferred values

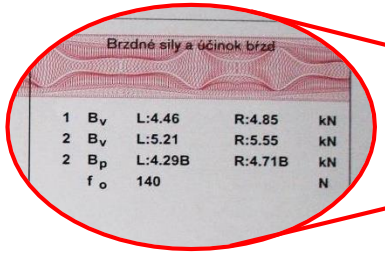


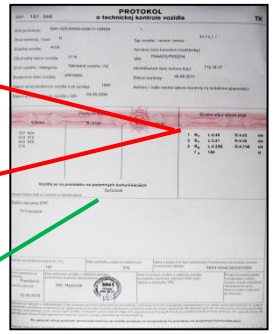


Brake test evaluation will not be done by ISTK user



PTI report





Roadworthy

ISTK server

Integrated algorithm for calculation and evaluation of brake test

Extended scope of data transferred from roller brake testers

Current state of the project and plans for the future

Current state:

We have successfully finished the first stage of the project. From every PTI performed in the Slovak Republic the new extended scope of data is now transferred and stored.

Next steps:

- Analysis of the collected data
- Automatization of brake test evaluation
- Creating tools for state supervision
- Integration of the brake test data with other collected data, especially video monitoring

Thank you for your attention

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