ate Railways (MÁV) coun
ng GNSS technology

insight on how MÁV, the **Hungarian**
objects with high precision (5 cm ~ 2
in 14 month. Data collection is key
0% of resources are often used for data
vironment including civil & electrical e
d in one measurement process.

es

ersed assets

of the country

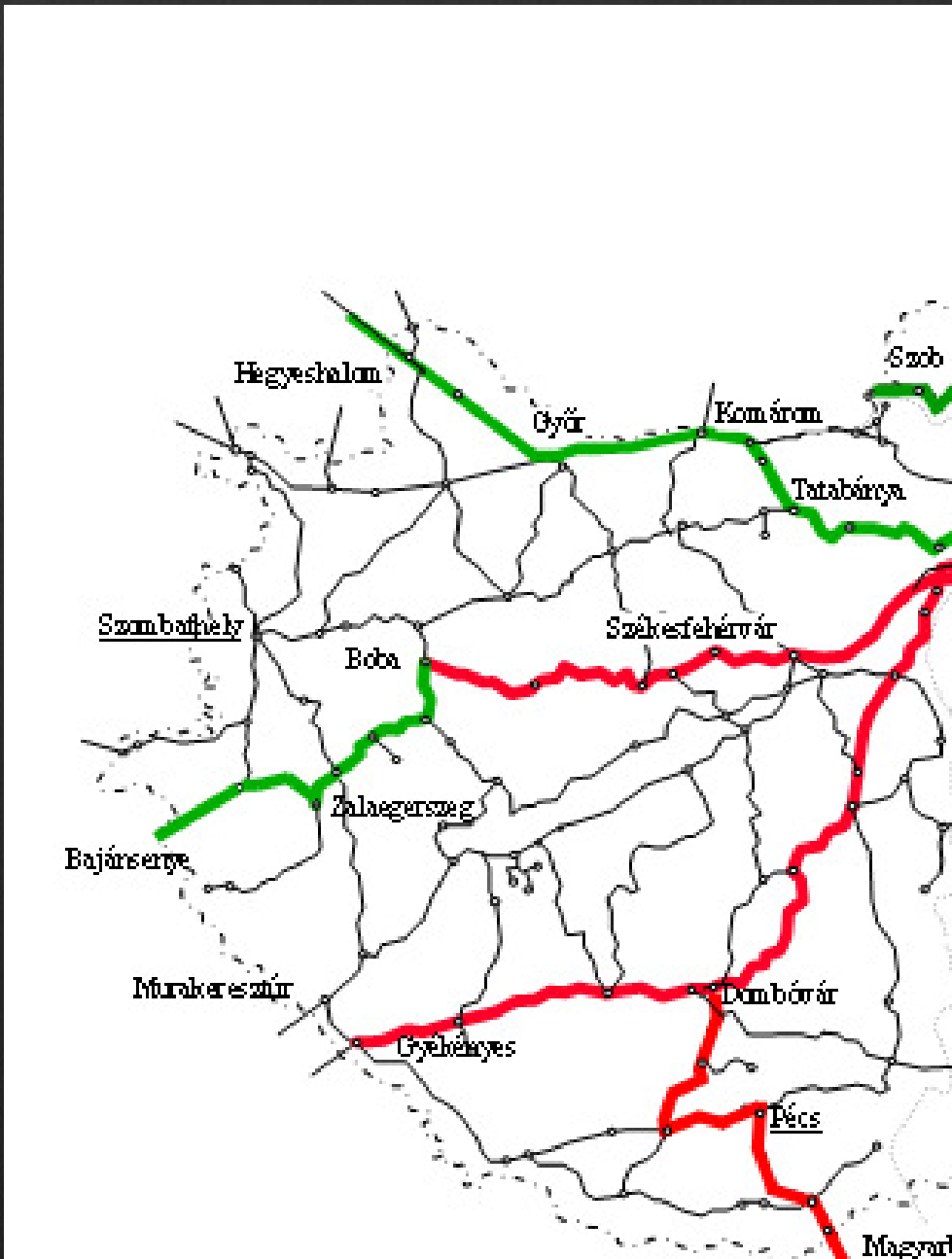
ed with fields or forest

ith forests or trees

nt

ied line

ne



6 + 1 groups

Overhead Line

ility Management

cts

ent of 7 different „utilities”

e

of updated maps

GIS initiatives

ts

o his own GPS

- Analyzed data col
- Geodetic surveying
  - Cost and time prob
- Raster design base
  - Precision and avail
- Helicopter based c
  - Cost and time prob

garian reference station infrastructure op
ng and mapping authority

σ) horizontal, ≤3 cm (1 σ) vertical over the wh

s

quipment

LONASS

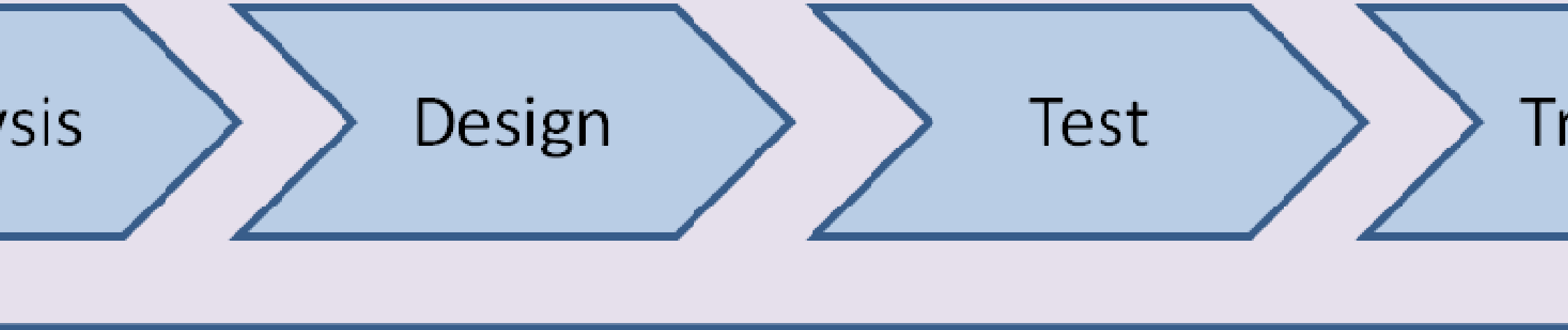
.5%)

uality

on needed
cation

age of GPRS
y

color codes
rnal antenna
ernal antenna



sis

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cts
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Design

System
- Maps & layers
- Objects
- Attributes
- Workflow
- Reports

Data collection
- Measurement

Test

Integrated System & Data collection test
- Quality
- Quantity
- Control systems

Trai

Mea
Mea
App
Attri
Data
Syst

rtments with independent graphical inte
vel – some assets are components of inc
objects used by all departments
erent attributes needed for specific obje
ed for all objects

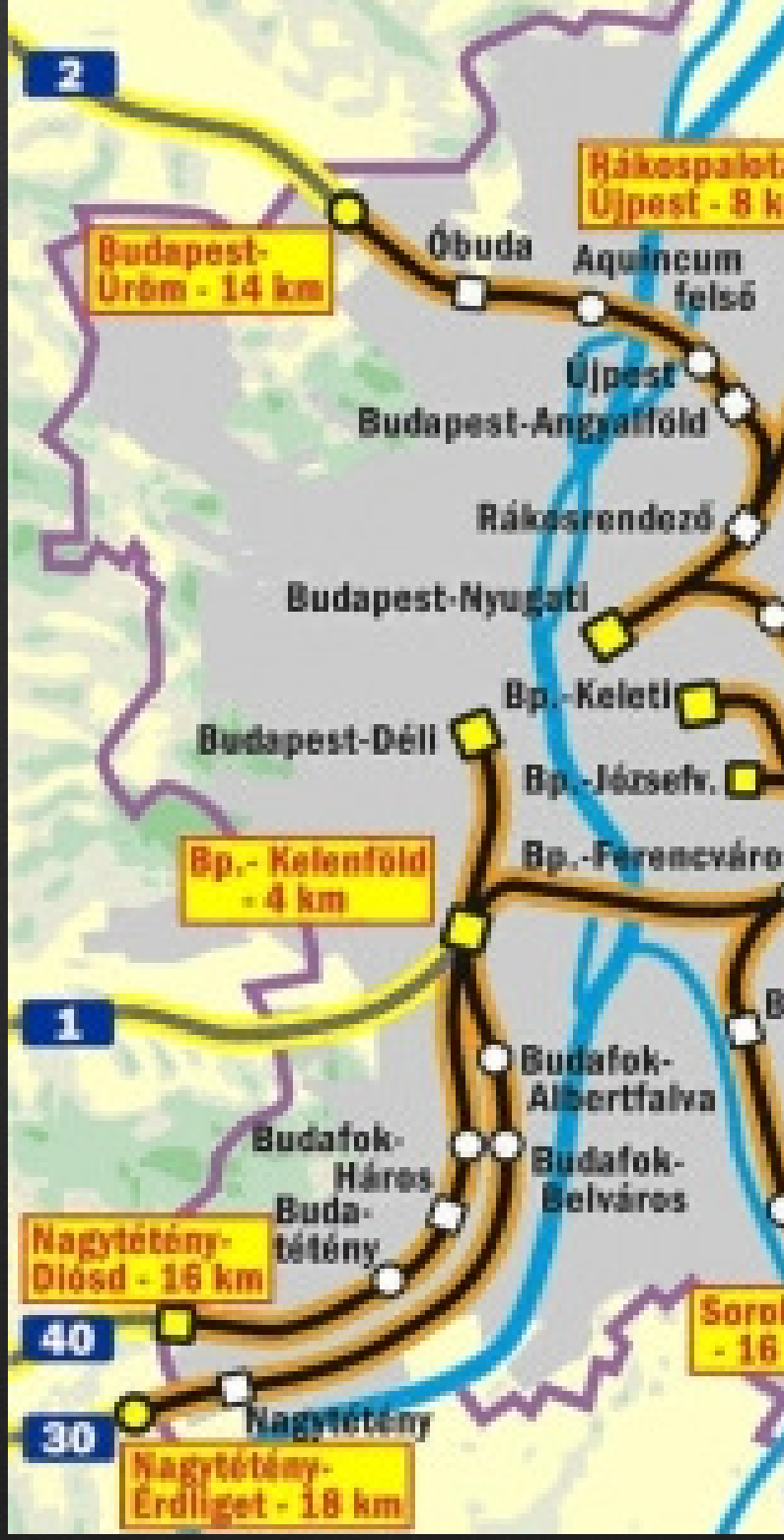
categories

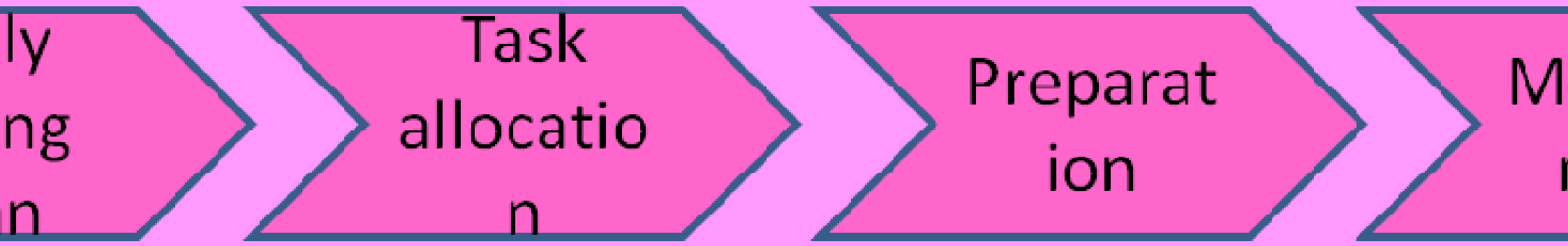
ectrified

tra

ew technology ratio

asurement expectations





Task management

Task allocation

Generate task

Allocate resources

Holiday planning

Preparation

Map analysis

Support info

Device update

Me

Tea

On

Use

Hel

ion

erative

asurement area and knowledge of the te

e needed

s are needed for access of high risk – rai

es for operation management

ning is performed in the 6 territories

ssured by reporting

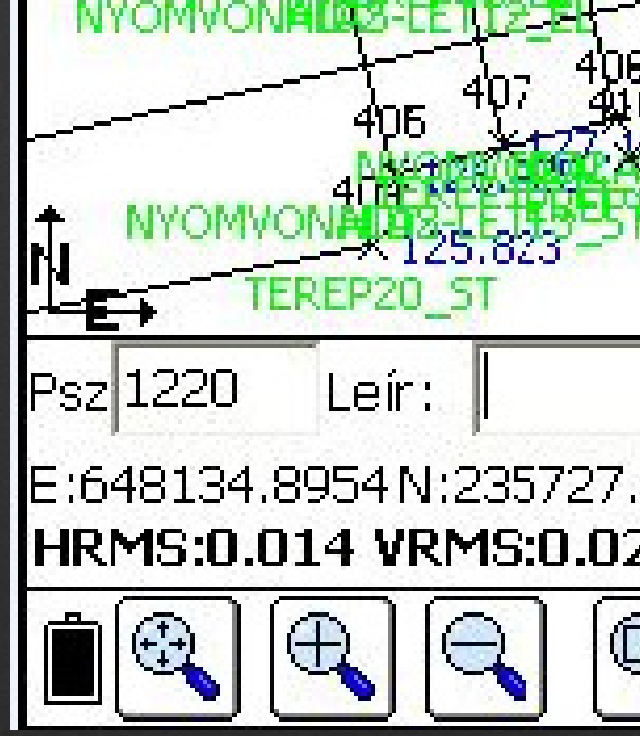
s

(on the earth objects)

sources

for measurements

available + colleagues with special skills



or –> repeated measurement needed

	Average site access time	Average measurement time	E

otely over the whole country

ut is strongly related to measurement tim

surement is important to follow the deve

ures strong control of both measuremen

ories

User name	Device active time [UTC]
mavmt201	2010-08-03 05:56:49 - 2010-08-03 14:48:37
mavmt201	2010-08-04 05:57:48 - 2010-08-04 15:05:27
mavmt201	2010-08-05 04:30:49 - 2010-08-05 12:21:15

al to measurement time in normal proced

is a performance and quality issue

and upload is broken down to small cycle

s alltogether

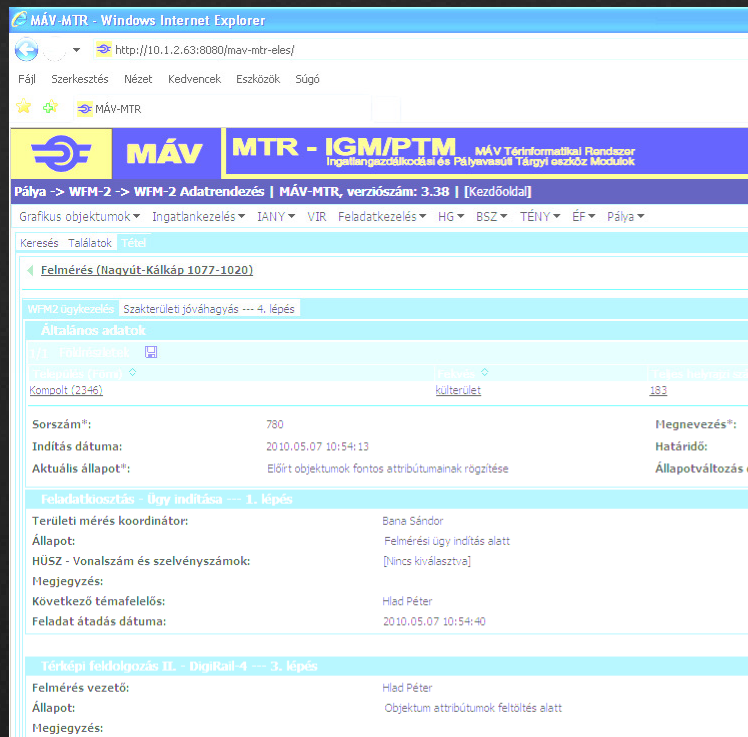
e in progress x 7 divisions included in ea

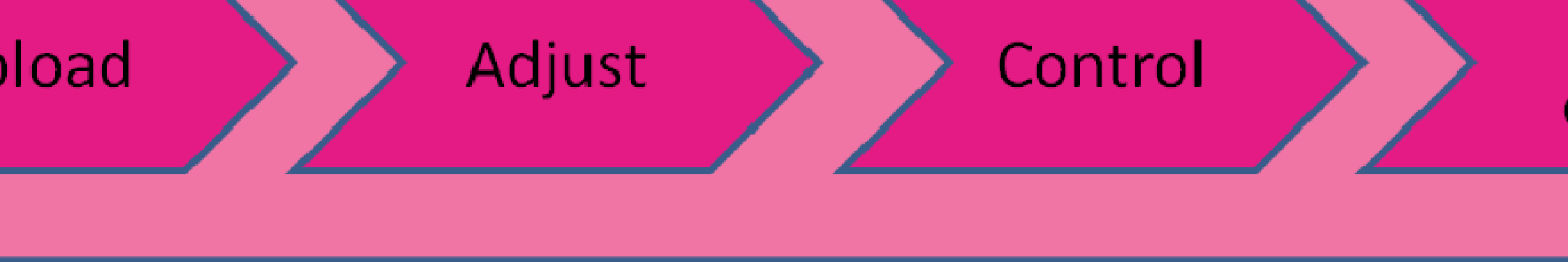
ss is built from 7 steps

cesses steps are

„umbrella”

rocessing and control





Task management

from

Adjust

Automatic

Manual

Control

Local expert types

Integration control

Documented feedback

Controlled time

y for corrections of measurements
departments
utoDesk SW based with AU partner add
ons of GIS device in data processing
y data for processing but not in final – GIS ready - forr
2008 based Upload
omatically performed for data adjustments
ections have to be performed manually
based Job Management

6 territories

wing independently

available at the review

tion has to be simple

wait till all reviews are performed

unctionality was introduced with parallel proce

el support and control

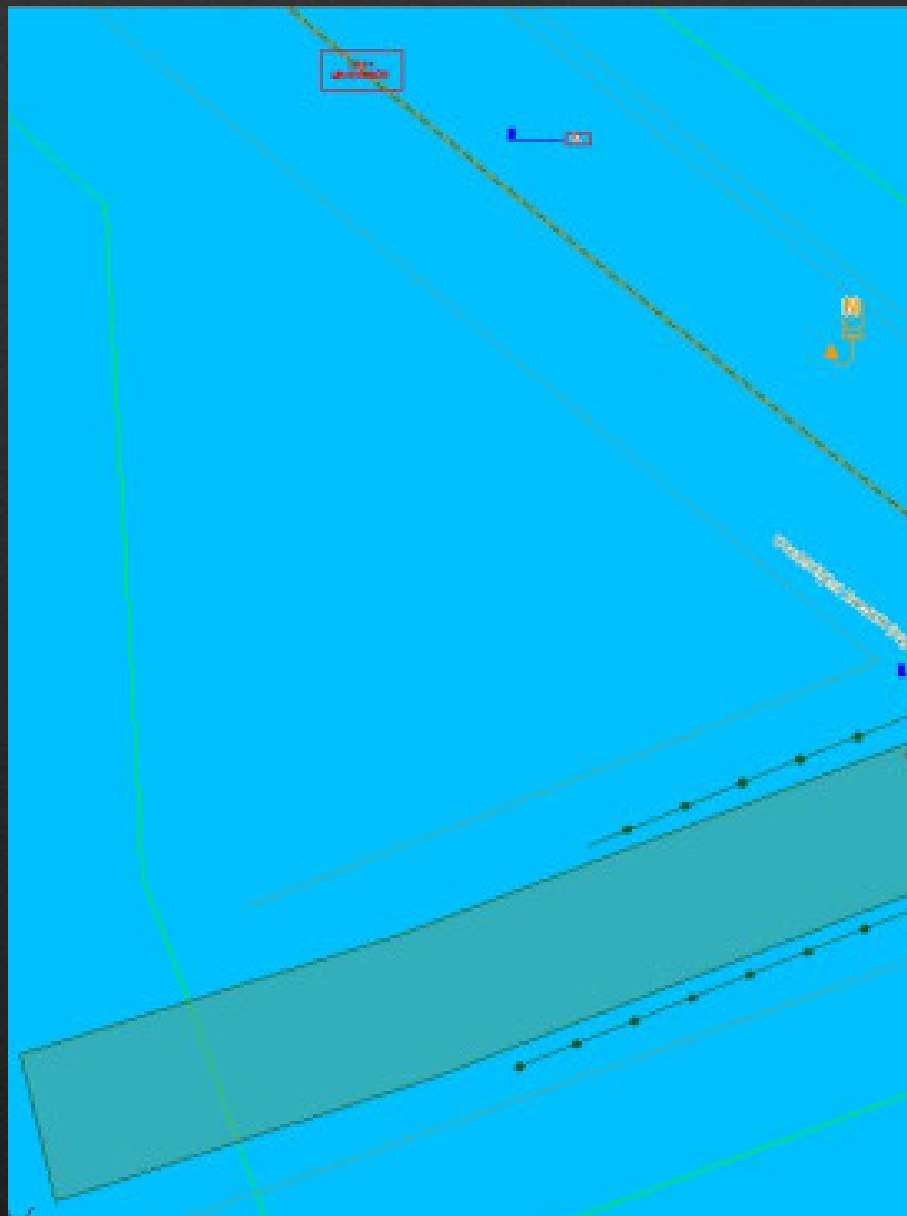
pproach

pproach

the data
of data quality
quality improvement
handling

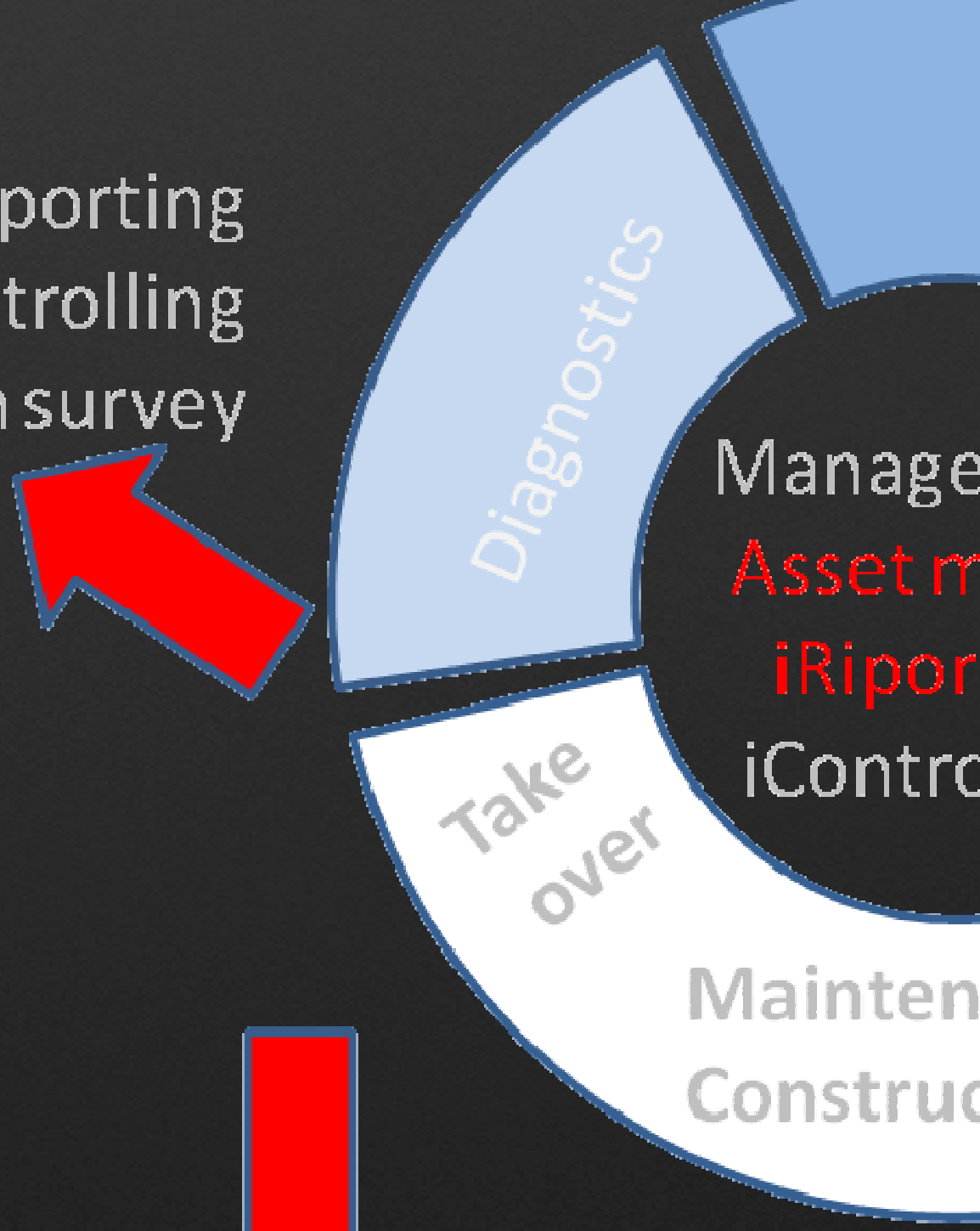
sers to come with
s
and interface requests

ilding measurement



king at MÁV

eRiporting
eControlling
Satisfaction survey



proved
info - GIS
roach needed

stage have
nicated in basic

g for data
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e cost versus
ost – 4 times

rencing versus
4 times savings
d on MÁV
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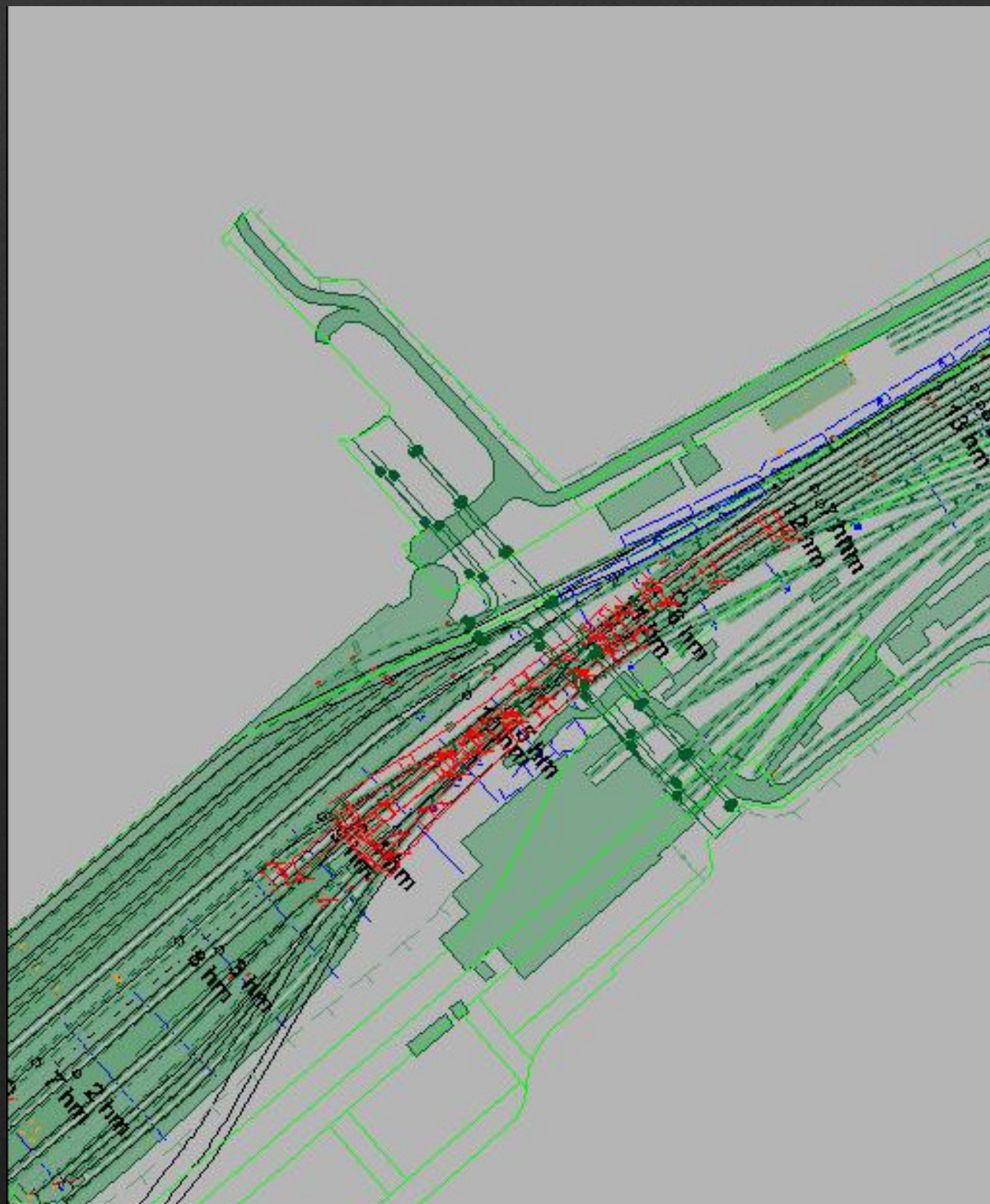
tem" effect



ay aspects of MÁV GIS project was gov

Mr. Dr. László Mosóczi,
esident of the Hungarian State Railways