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## Infrastructure monitoring nowadays

IS NOT EFFECTIVE!



Outdated information  
or structures not  
monitored at all

Bridges, dams, urban areas  
are not under vital surveillance



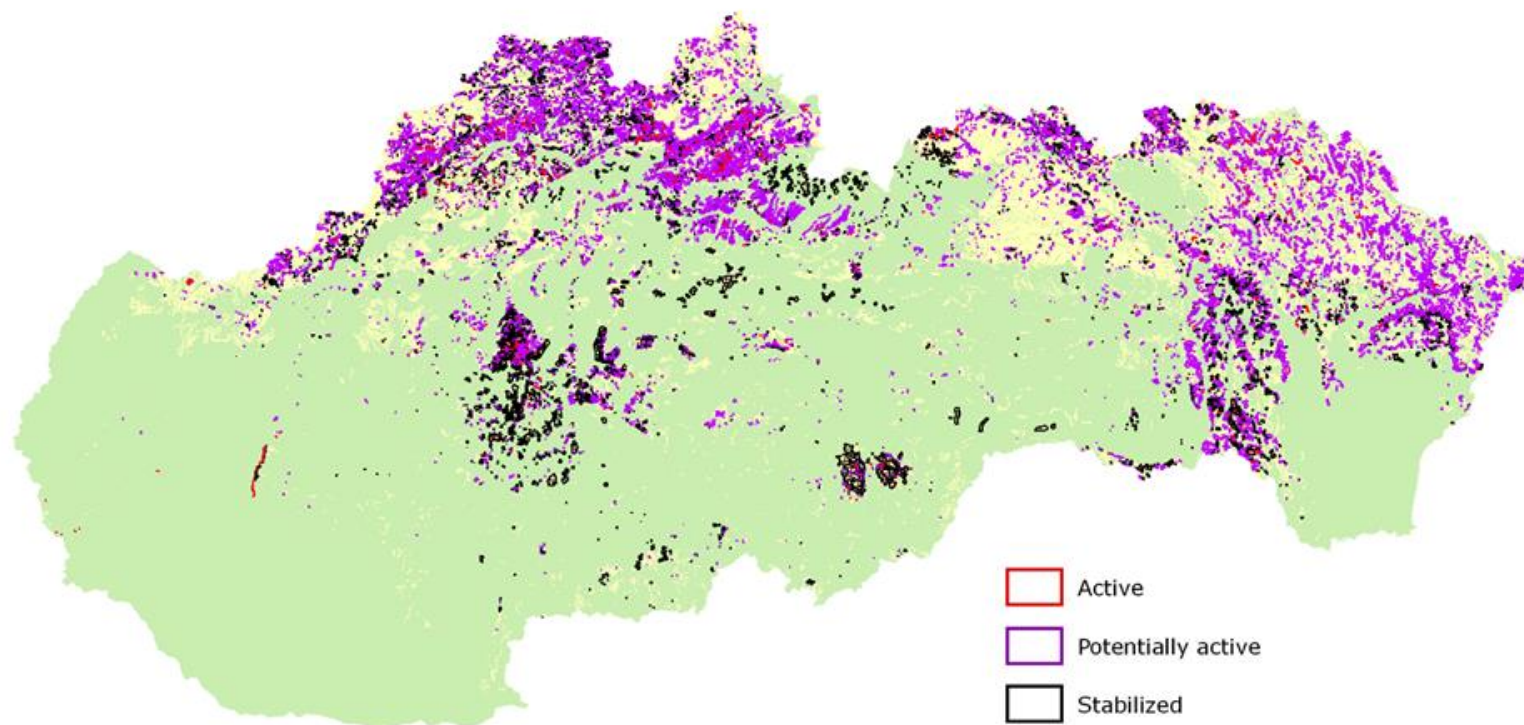
Under potential risk

Lots of structures are build on  
or in close vicinity to  
hazardous slopes



Expensive in-situ  
monitoring

Terrestrial measurements are  
costly in terms of equipment  
and manpower



Landslides & slope deformations endanger 5.25% of the territory of Slovakia

These annually cause extensive economic damage on property of citizens, municipalities and state.

Average economic loss per year in Europe due to landslides ~ 4.7 billion €

The logo for insar.sk, consisting of the text 'insar.sk' in a white sans-serif font inside a small blue circle.

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A large light blue circle with a darker blue border, containing the text 'OUR SERVICE' in bold white capital letters.

## OUR SERVICE

Monitoring of structures & infrastructure stability using remote sensing technology.

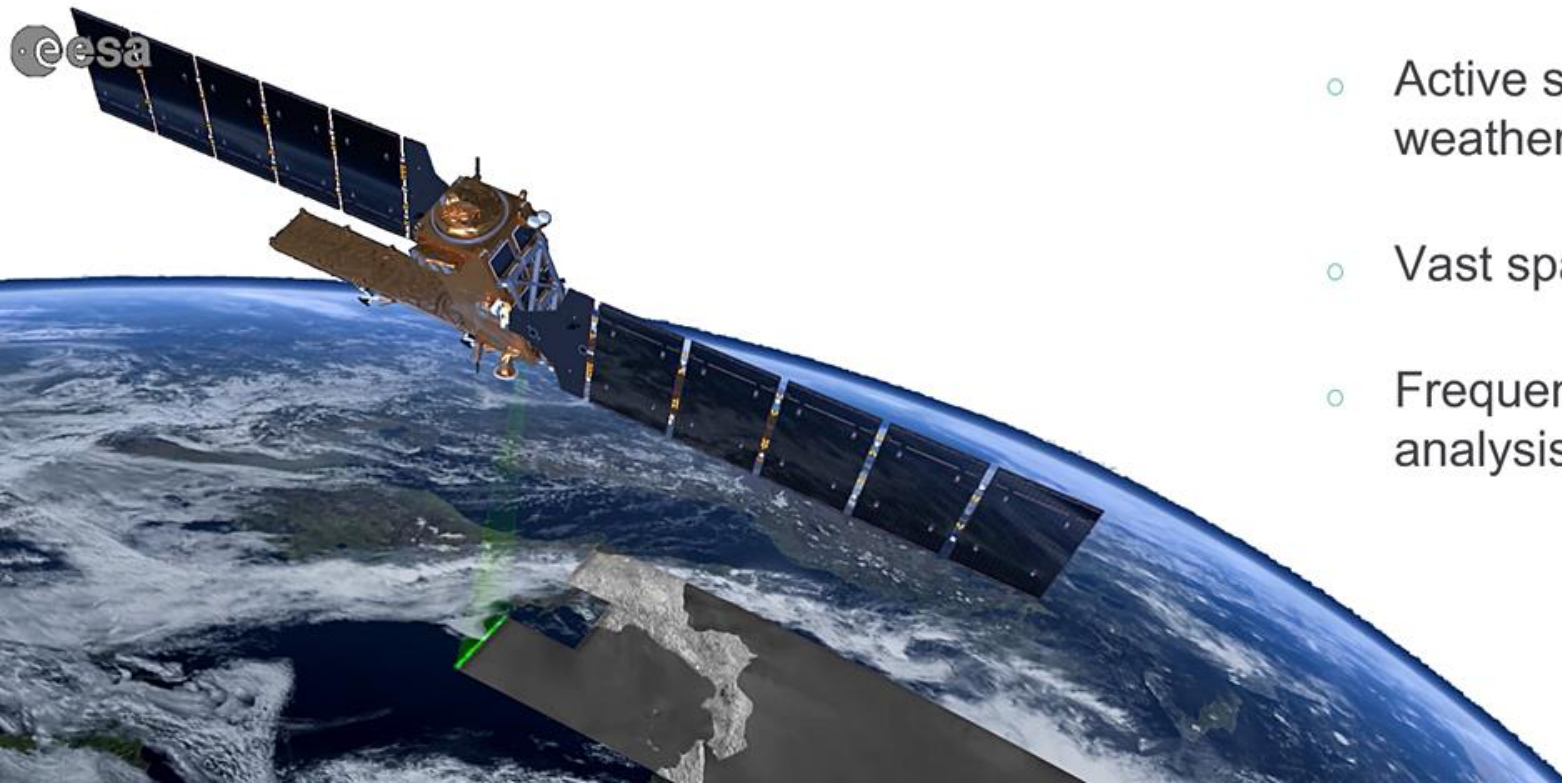
Situation awareness during evolving deformation processes like landslides, building collapses, highway disruptions, dam failure, etc.

Our customers are protected in the face of a natural or man-made disasters.

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# INterferometric Synthetic Aperture Radar



- Active system - day/night operation & weather independent
- Vast spatial coverage at low-cost merit
- Frequent temporal sampling & historical data analysis (backdating)



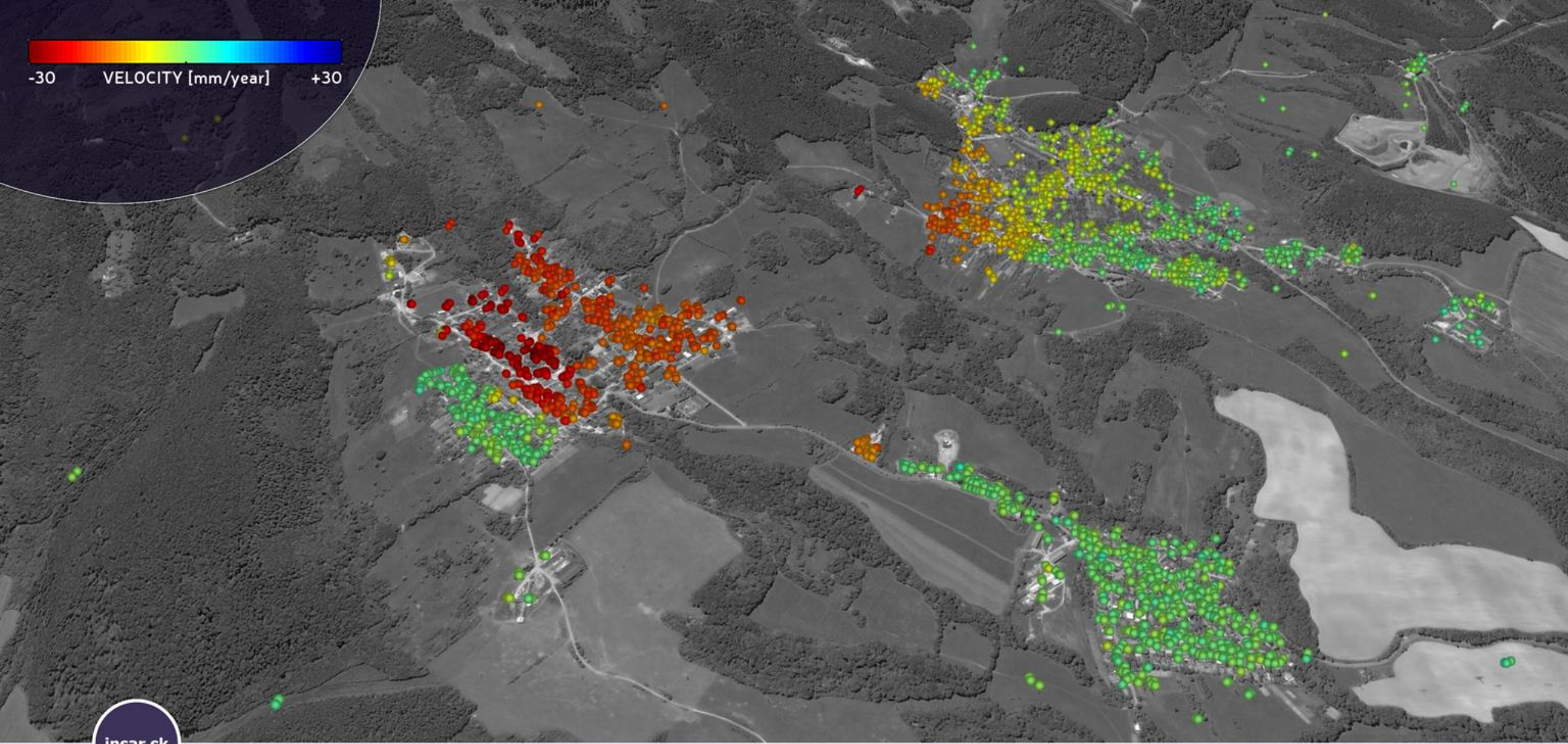


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## URBAN MONITORING – Bratislava

*Every point contains precise deformation time series. Green colour indicates stability.*





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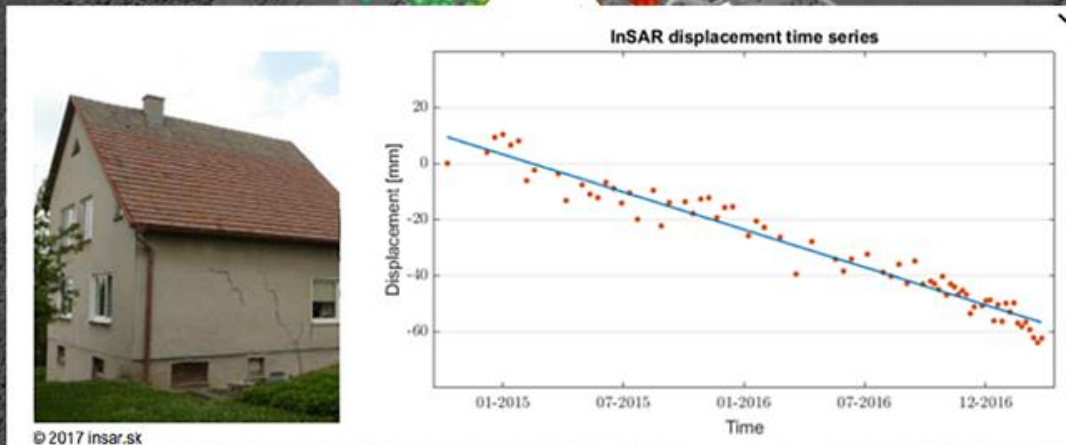
## LANDSLIDES – Upper Nitra

*Red colour indicates movement exceeding 3 cm per year.*





LOCATED AND CONFIRMED PROBLEMS  
ON THE GROUND!



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LANDSLIDES – Upper Nitra

*Red colour indicates movement exceeding 3 cm per year.*



## Our Experience



### WHOLE WORLD

InSAR analysis provided regardless of world location



### WHAT WE DO HERE

MONITORING OF:

- URBAN AND SUBURBAN AREAS
- LANDSLIDES, SUBSIDENCE, UNDERMINED AREAS
- BUILDINGS, BRIDGES, HIGHWAYS, RAILWAYS, DAMS, SURFACE MINES
- DEPOSITS OF MINERAL RESOURCES

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## MARKET OPPORTUNITY

Geological surveys .....

Energy industry .....

Oil & Gas corp. ....

Mining corp. ....

Civil Engineering .....

..... Construction industry

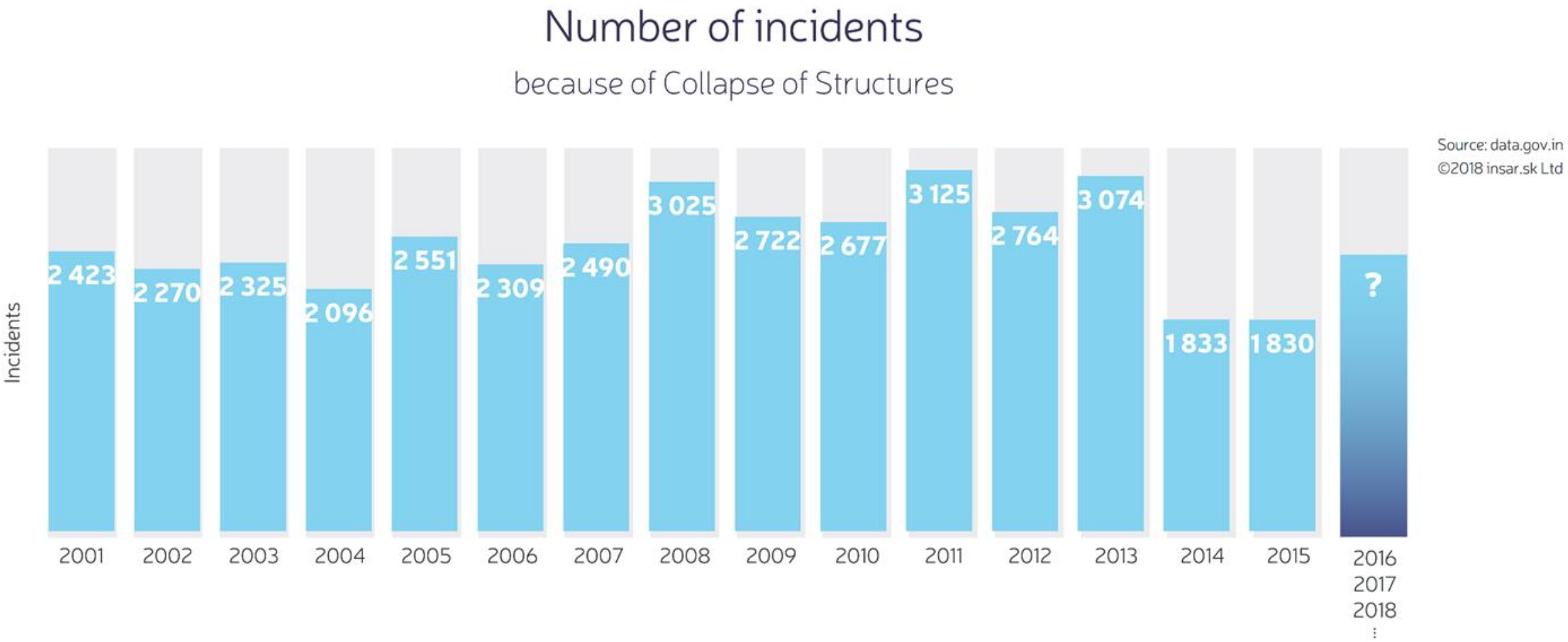
..... Transport industry

..... Urban planners

..... Dam operators

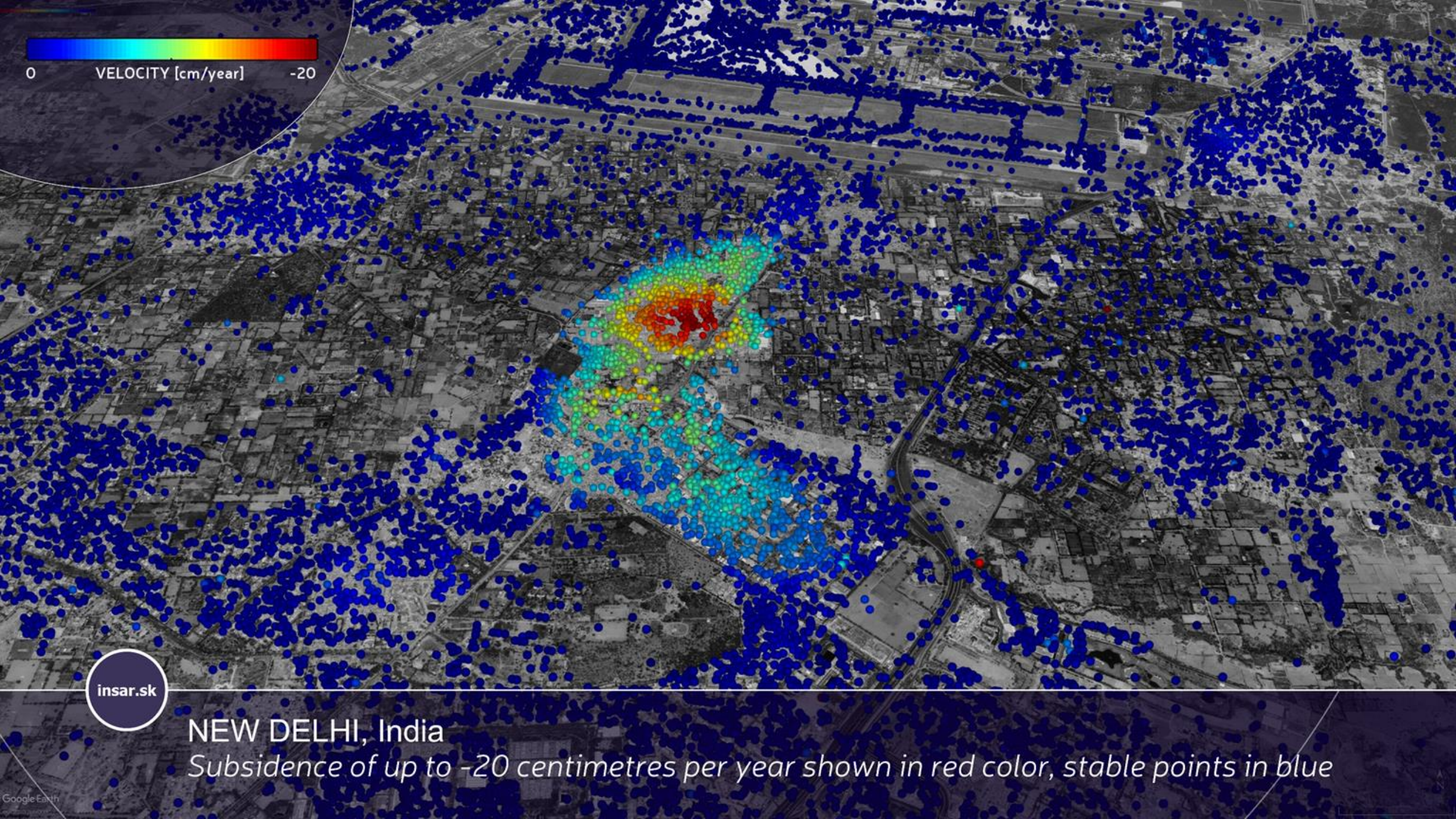
..... Water management facilities





The alarming number of accidents points to the need for the better structural health monitoring.



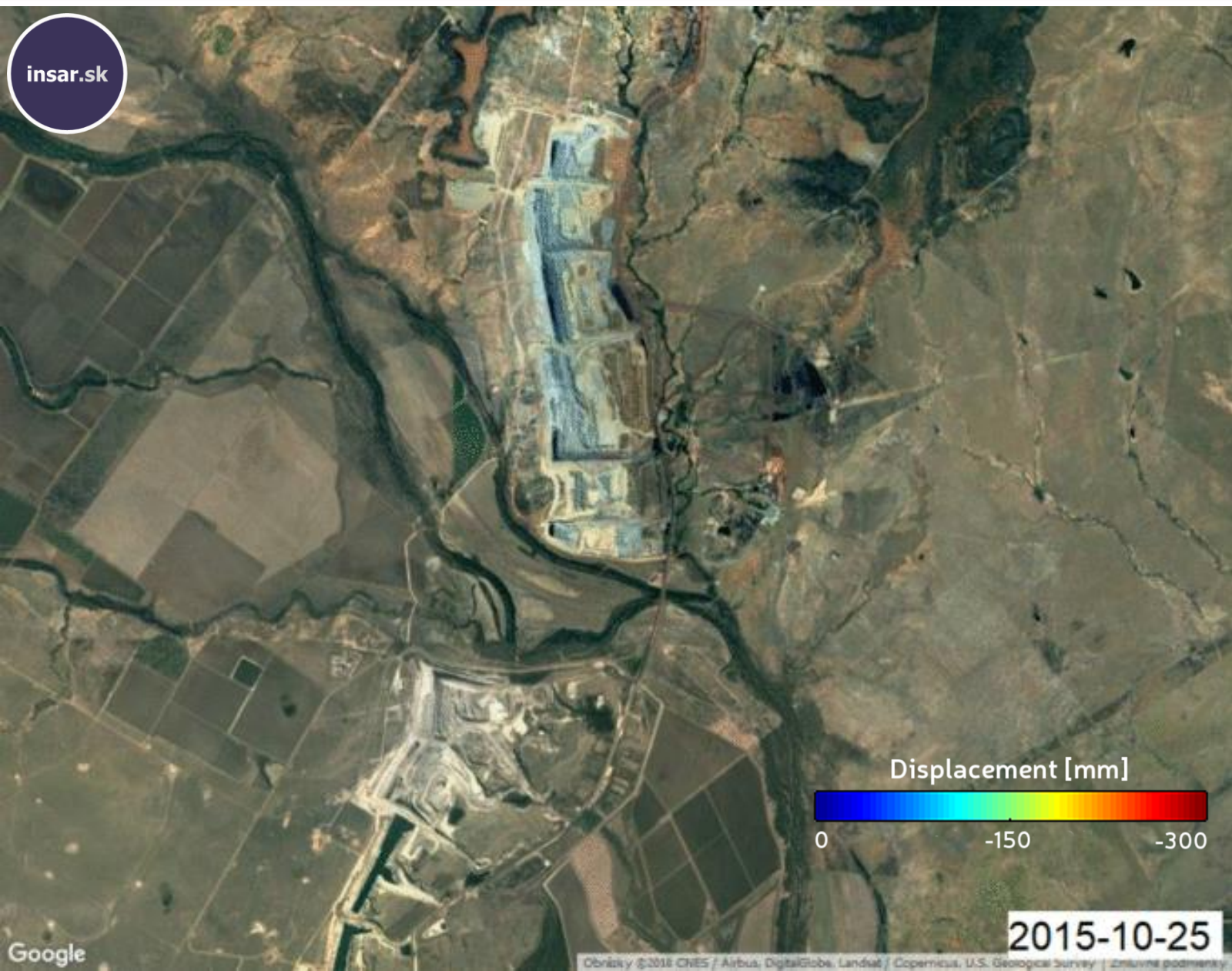


0 VELOCITY [cm/year] -20

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NEW DELHI, India  
Subsidence of up to -20 centimetres per year shown in red color, stable points in blue





Coal mine  
monitoring

## Current Projects & Boosts



### ESA PECS - RemotIO

Slovakia in the Plan for European Cooperating State (PECS) of European Space Agency (ESA)



### Ready2GO

The innovative programme that helps dynamic European small and medium-sized enterprises to go GLOBAL



### Copernicus Relays

Network of ambassadors, coordinating and promoting activities around the Copernicus Programme for local residents and businesses

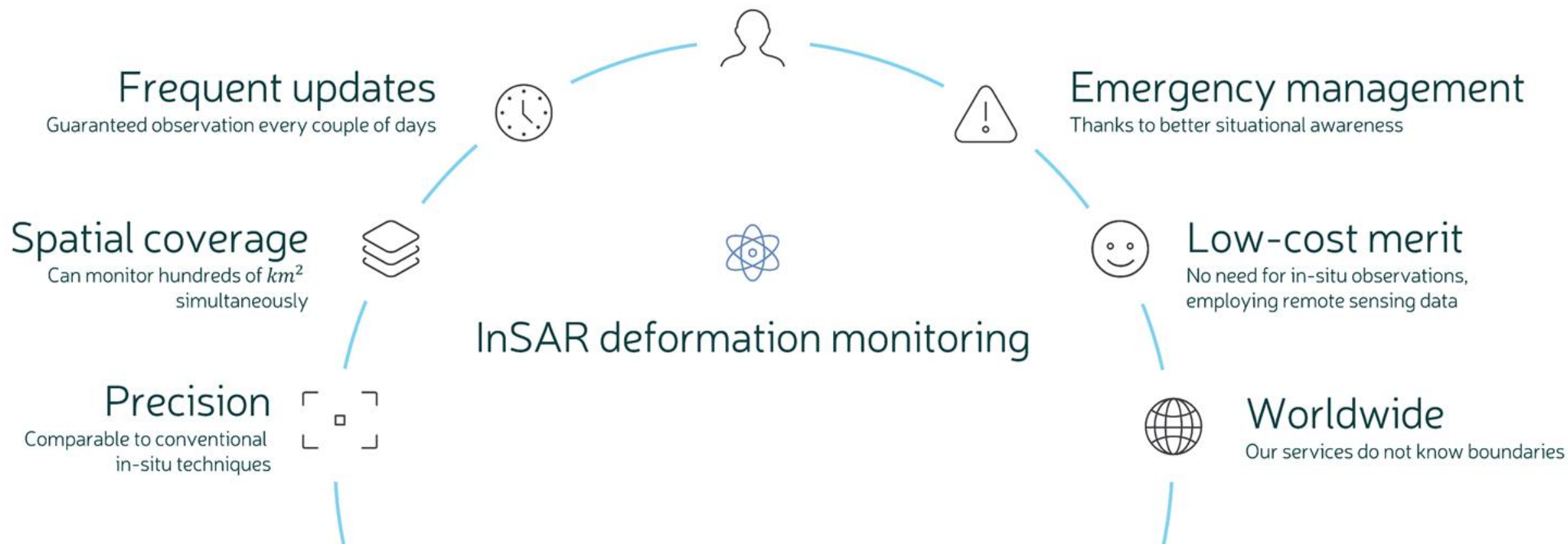


# Národný InSAR Workshop

28.6.2018

[bit.ly/insar\\_workshop](http://bit.ly/insar_workshop)

## Our Added Value







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