



Mobile Network Data Usage – Potential & Reality

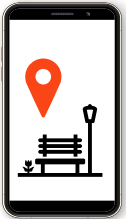
Experience of LMT,
the largest mobile operator in Latvia

Prof. **Juris Binde**, Dr.oec
President of LMT



Mobile phones are excellent **sensors of human activity**

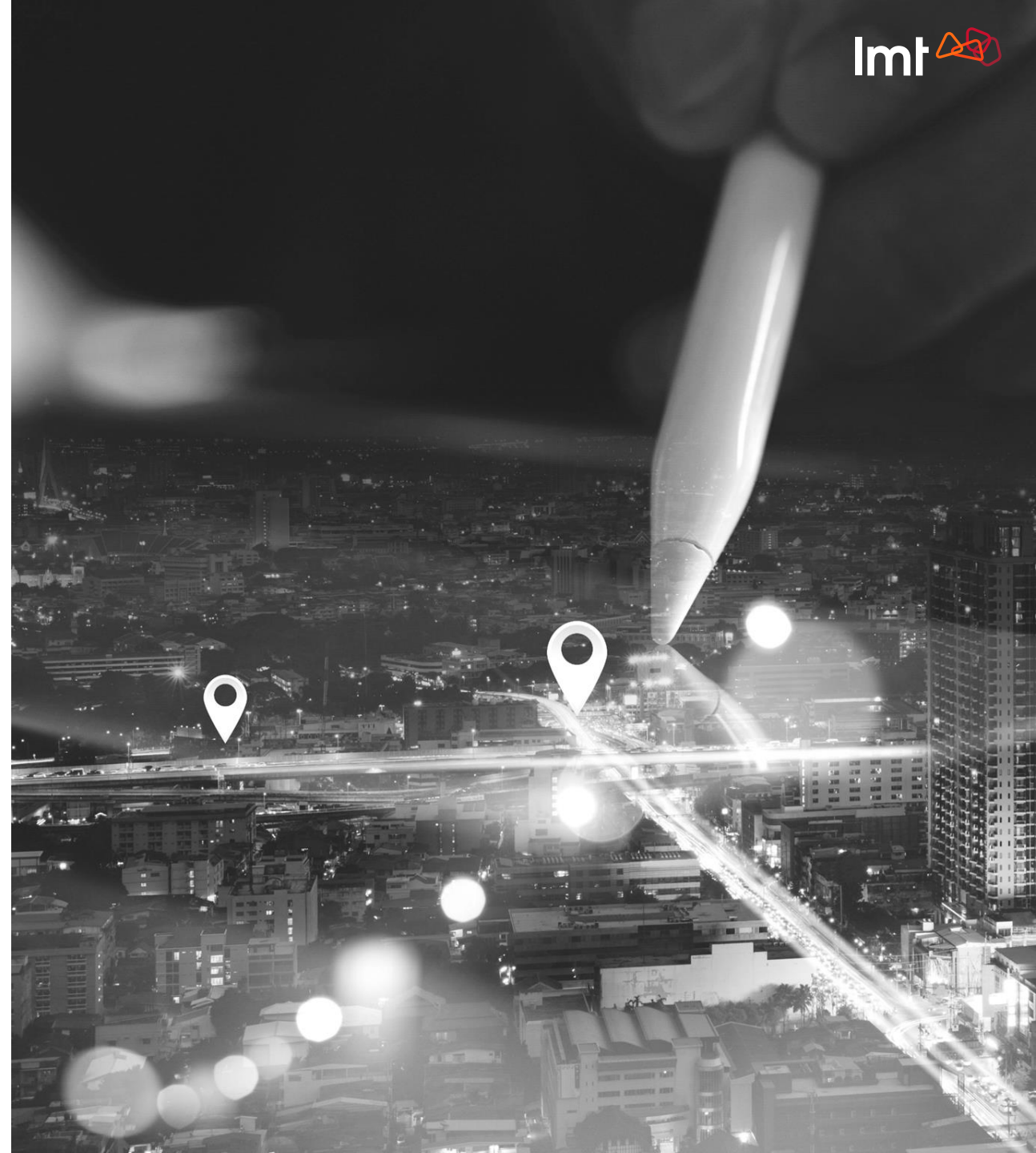
Digital footprints enable large-scale analysis of human behavior



Mobile phone usage produces data related to location, movement, mobility, and environment



Data about mobile networks and usage is already being captured, stored, and secured by operators



Comparison to traditional data sources



Higher Resolution

lower granularity



Lower Latency



Lower Cost



Larger Sample

lower granularity



More Noise

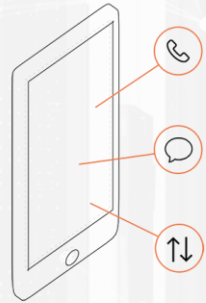
Effective Big Data engineering is a foundation of actionable and accurate business insights in any industry

Retail	Sociodemographic analysis	Retail site planning	Personalized marketing	Common billing
		Real-time, location-based targeting		
Banking/finance		ATM/branch location planning		Product cross-sell/upsell
		Credit scoring	Fraudulent transaction detection	
Advertisement		Billboard placement		Personalized content design
		Real-time, location-based targeting		
Government	Traffic planning		National security surveillance	
	Government services provisioning		Smart-city planning	
Transportation		Real-time, traffic-based routing		
	Route planning and analysis		Profile-based dynamic pricing	

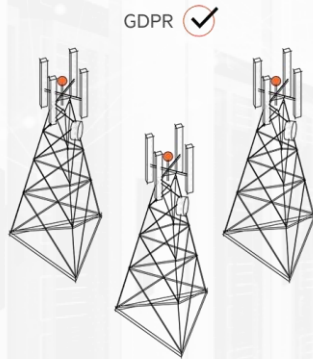
Increasing complexity level

Data privacy by design

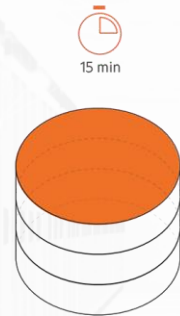
How does it work in LMT network?



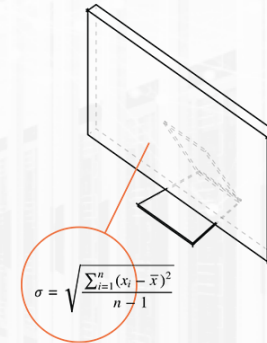
Only data on number of calls, SMS and data sessions collected - GDPR compliant



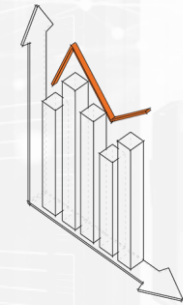
Mobile base stations across the country record the number of mobile network events



Information on number of events and location is recorded every 15 min



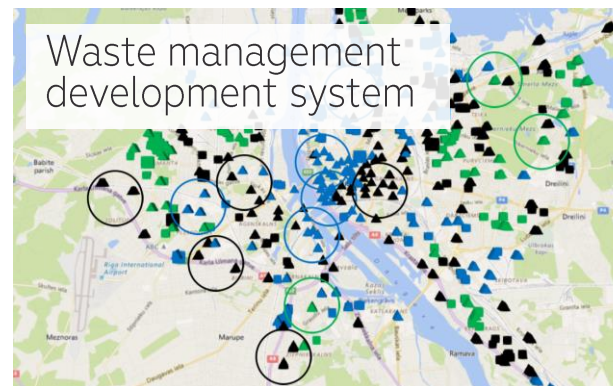
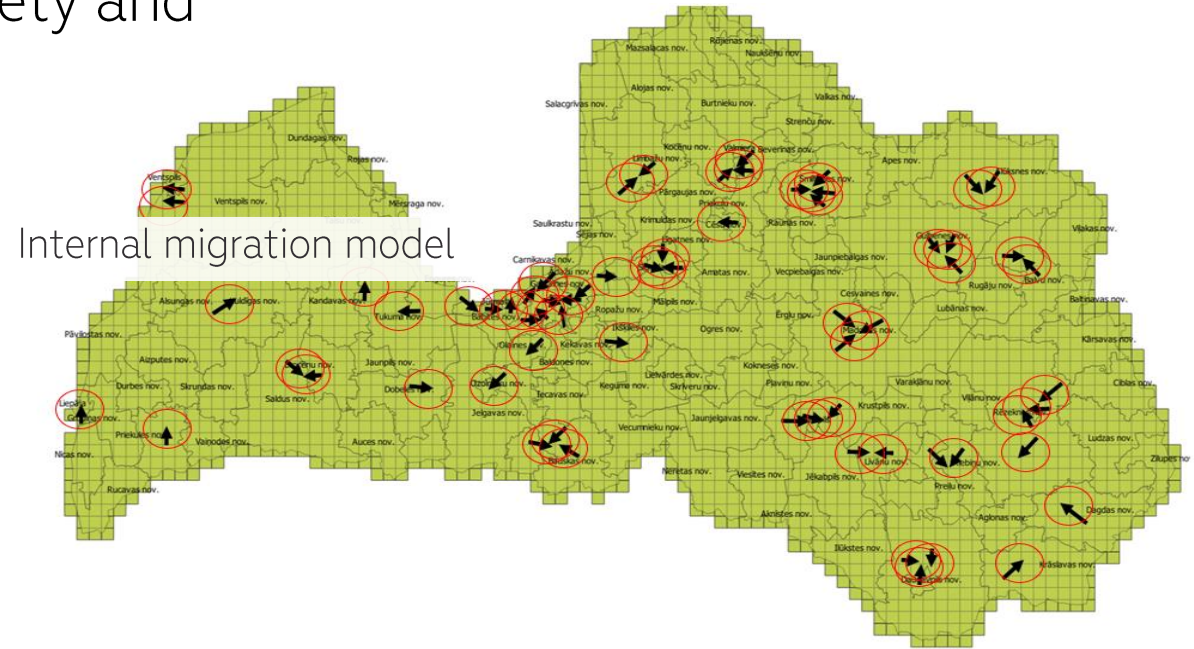
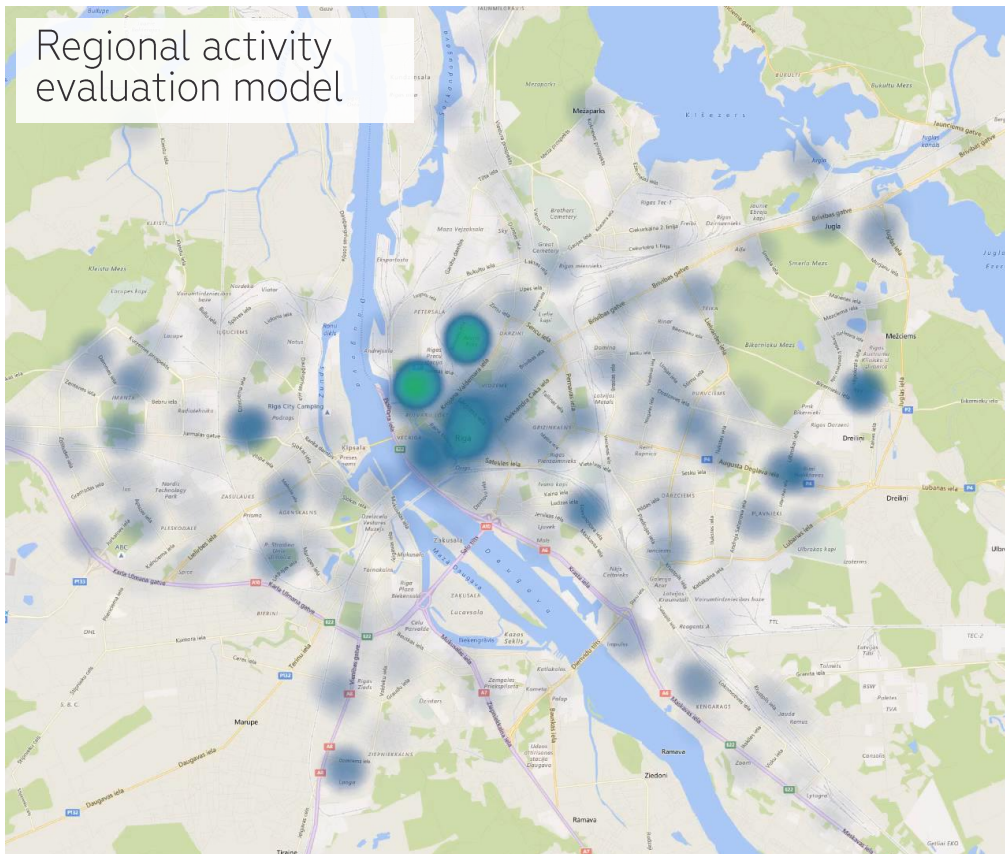
The collected data is analyzed by applying an advanced mathematical model developed in partnership with University of Latvia scientists



As a result, reliable location-specific real-time statistics and observations are available to decision makers.

LMT and University of Latvia partnership

Mobile data analytics use cases for society and business development



Partnership for the use of mobile operator data

See both sides of the story

«Easier to climb a mobile antennae than to get the data from telcos»

BPS-Statistics Indonesia

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- Privacy and personal data protection obligation
 - Data and cybersecurity implications
 - Commercial sensitivities risk
 - Extra technical infrastructure
 - Direct and indirect cost increase
 - Ethical and publicity concerns

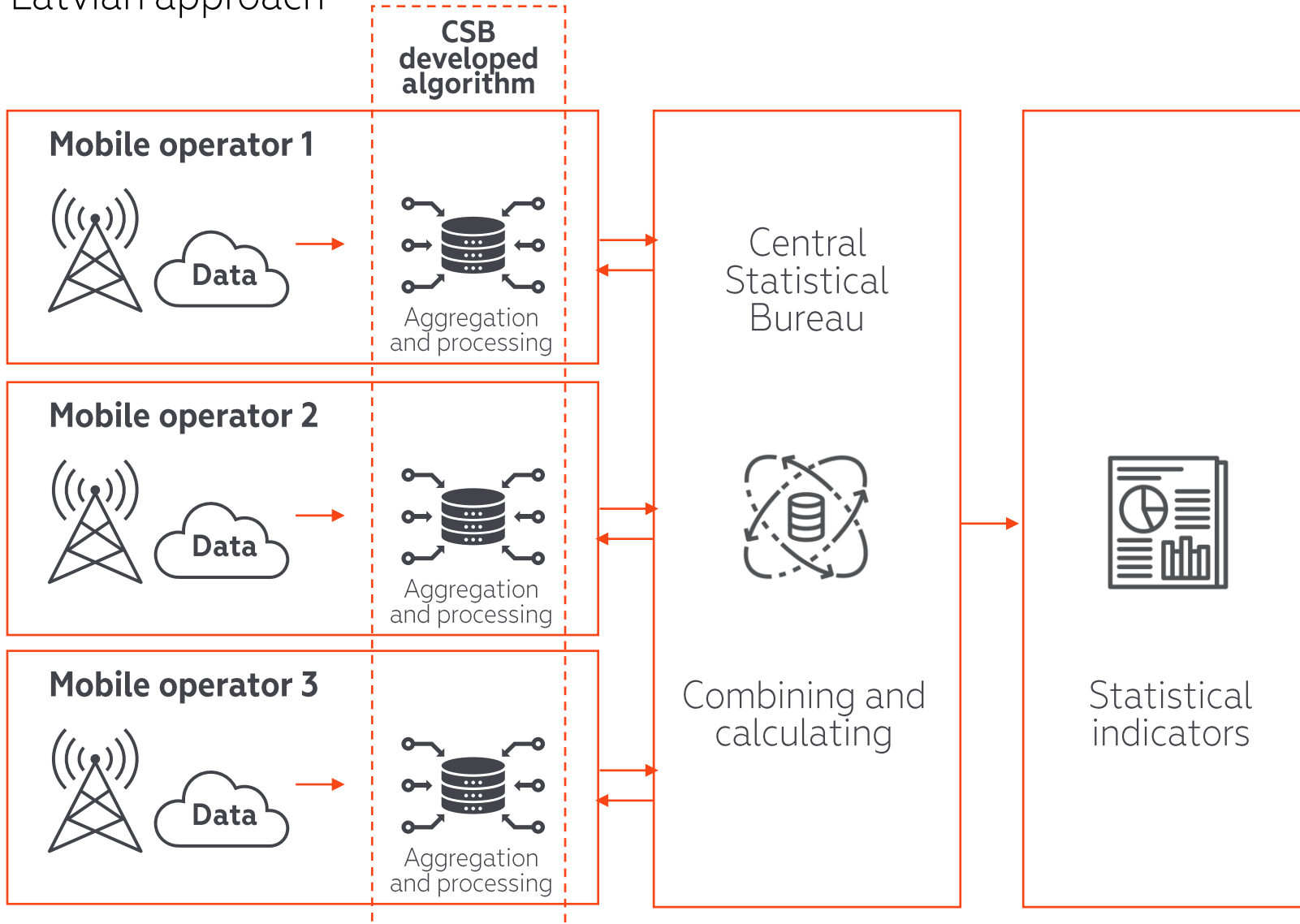
LMT and Central Statistical Bureau (CSB) partnership

- Start November 2018, still ongoing
- Iterative discussions on the best solution and legal framework for accessing and using data from mobile operators for official statistics production purposes
- Access to LMT data in compliance with GDPR framework for CSB data scientists to develop mobile data processing algorithms



Mobile data analytics and traditional statistical system

Latvian approach



- Distributed data processing and bilateral negotiations
- High level personal data and privacy protection
- Cybersecurity risks mitigation
- Protection of business secrecy
- Innovative and consistent data for official statistics

Basic requirements for **successful partnership**

Key takeaways and lessons learned



Straightforward dialogue
between mobile operator
and Statistical office



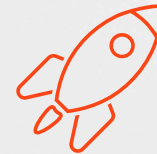
Clear definition of data
necessary for official
statistics



Solid legal and administrative
procedures to access the
mobile operator data



Step-by-step approach and
Complementary contribution
by both partners



Strong benefits for mobile
operator and statistical office
from the data processing process

The principle of using the results of data processing in both the public and commercial interests would be a strong basis for successful cooperation

“ You can have data without information, but you cannot have information without data ”

Daniel Keys Moran

Computer programmer and science fiction author