



Regaining Trust and Confidence to Boost the Economy and to Recover from Pandemic



DIGITAL & INNOVATION FOR BRISA'S CORE BUSINESS

Jorge Lopes

BRISA

jlopes@brisa.pt

Brisa's core business



TOLL COLLECTION

innovation leader of toll collection systems in performance and efficiency



ROAD OPERATIONS

top class road operator in safety, reliability and driver assistance



ASSET MANAGEMENT

reference in the integrated and efficient management of road infrastructures

Strategic goals and metrics

EFFECTIVE TOLL COLLECTION



minimize toll collection losses due to driver behavior, operational problems or technical failures throughout the traffic-revenue chain

OPERATIONS EFFICIENCY



deliver tolling, road support or asset management services in the most cost-effective manner possible while still ensuring the defined quality

ASSETS PERFORMANCE



optimize assets availability and performance, and minimize risk, according contractual obligations and defined standards

QUALITY OF SERVICE



ensure the quality of service provided to the road customer, contractual compliance and commitments with stakeholders

SUSTAINABLE MOBILITY



contribute to a more sustainable world from the road landscape, improving safety and reducing emissions

METRICS

Percentage
Value

Cost

Condition
Risk
Cost

Customer
satisfaction
Compliance

Road safety
Traffic performance
Decarbonization

Drivers for digital

DIGITALIZATION



conversion of analog to digital to impact how work gets done (e.g. paper minimization, digital communications)

AUTOMATION



perform processes or procedures with minimal human input or assistance

COLLABORATION



used to facilitate the efficient sharing of data in a cost effective way and ensure compliance with best standards

CONNECTIVITY



ability to connect in real time with equipment, systems and services wherever they are located

CYBERSECURITY



practice of defending computers, electronic devices, systems, networks and data from malicious attacks

Strategic action plans



TOLL COLLECTION



1. Automated tolling



2. Digital payments & Cashless tolling



ROAD OPERATIONS



3. Automatic road monitoring & incident detection



4. Digitalization of road service operations



6. Cooperative Intelligent Transport Systems



ASSET MANAGEMENT



7. Automated infrastructure sensing, IoT & connectivity



8. Digitalization of field service operations



9. Integrated asset management



10. Network security and cloud computing

Toll collection

1. Automated tolling

Automated tolling enables high level of performance and efficiency of tolling systems as a whole. It also provides a growing range of digital payment services and flexible business rules.

License plate as universal vehicle identifier is the enabler key for the entire process, from the roadside detection to the transaction clearing and client support.

1A



Full proof
license plate
recognition

1B



Flexible payment
solutions

1C



Automated
vehicle
classification

1D



Virtual
entrance toll
tickets

1E



Attended robot
process
automation (RPA)
bots for self-
service tolling
support

Road Operations

3. Automatic road monitoring & incident detection

Lowcost video surveillance systems works 24 h, 7 days a week and generates a massive amount of information that cannot be processed by ordinary operators. Once the cameras are installed, automated video surveillance is the most economical technique for monitoring road traffic and detect abnormal situations to be managed by humans. It is also the most flexible solution for evolution with incoming needs from road operations.

3A



Automatic incident
detection

3B



Automatic network
monitoring and
prediction

3B



Flexible
monitoring
systems

9A



Dynamic
cooperation with
stakeholders

9B



Intelligent roads

9C



Digital
connection with
road users

Asset management

7. Automated infrastructure sensing, IoT & connectivity

Advances in a range of sensing technologies mobile communications and information processing have built up a potential for implementing new monitoring techniques of the structural integrities and/or deterioration processes of bridges, tunnels, slopes and other critical infrastructures. Unmanned aerial vehicles (UAVs) or drones, equipped with specific sensors, can also play an important role for surveys and inspections.

7A



Automated infrastructure sensing with IoT

7B



Remote sensing for infrastructures monitoring

7C



Infrastructures inspection with drones

7C



Connectivity with equipment for monitoring and repairs

8B



Remote support and augmented reality driven troubleshoot & interactions

8D



Automated field service operations



Brisa

towards a more automated, proactive,
collaborative and efficient operation with
benefits for business, users and society