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While transport services require physical delivery, digitalization is transforming the sector along the transport supply chain:

Vehicle/ship design;

Infrastructure: road, bridges, tunnels, rail, ports, terminals;

Transport operation (e.g. capacity allocation, cargo management, shipment tracking and tracing, customer services, etc.)

Intermediary services;

Supporting services: warehousing, monitoring and inspection;

Maintenance and repair of transport equipment;

Information and documents transmission among multi-players (shippers, shipping lines, port authority, the Customs, terminal operators, etc.)

Higher level of **automation**;

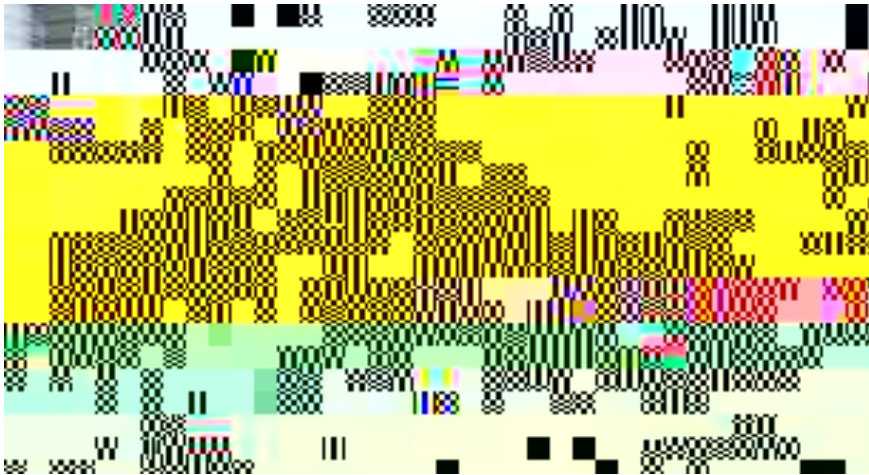
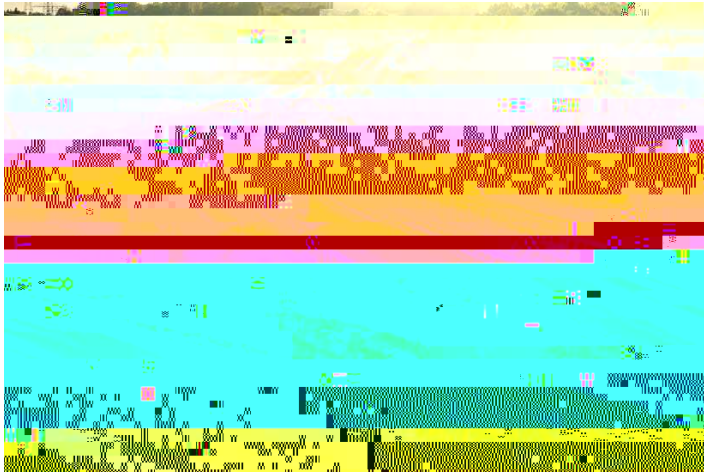
Better and broader **connectivity**;

Main **digital technologies** and solutions: Internet of Things, cloud computing, big data analytics, automation and robotics, artificial intelligence;

Digital platforms become a new business model, which enable innovative transport services or more efficient supply of services and increase tradability of services;

Data-driven approach become dominant for both businesses and regulators;

Digital synergies between transport/logistics services and other service sectors: digital transformation of transport and logistics services relies on the support of other services, but also boosts the latter's advances, such as: telecom, CRS, construction and engineering, energy, environment, and other business services.



Higher levels of automation:
platooning, autonomous vehicles

Intelligent Transport System (ITS):
wide deployment of road-side and
in-vehicle sensors combined with
Big Data analytics allows real-time
and fine-grained tracking so as to
enable better management of
vehicles and loads.

Digital freight brokerage services:
Load-matching platforms, e.g. Uber
freight



Online booking and
online cargo
management

Tracking and tracing of
shipments

Routes optimization

Autonomous vessels

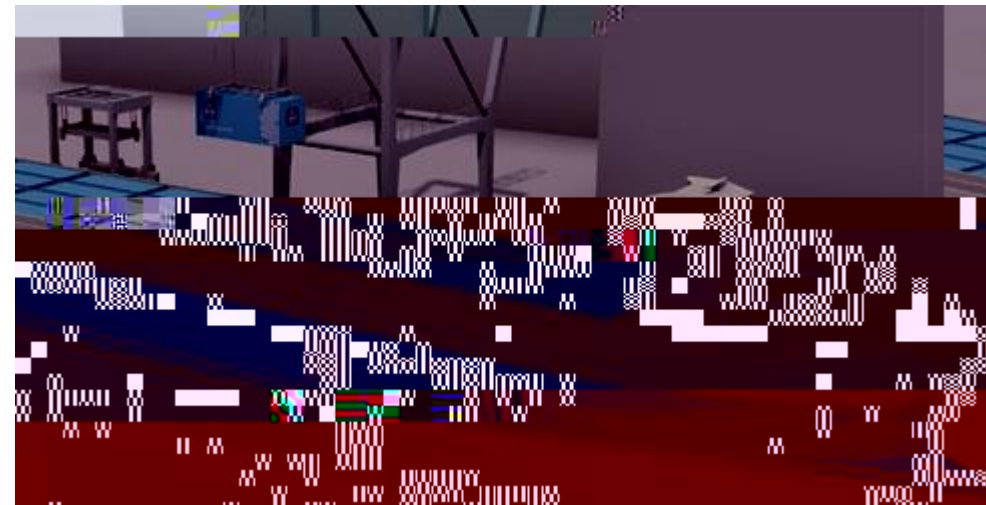
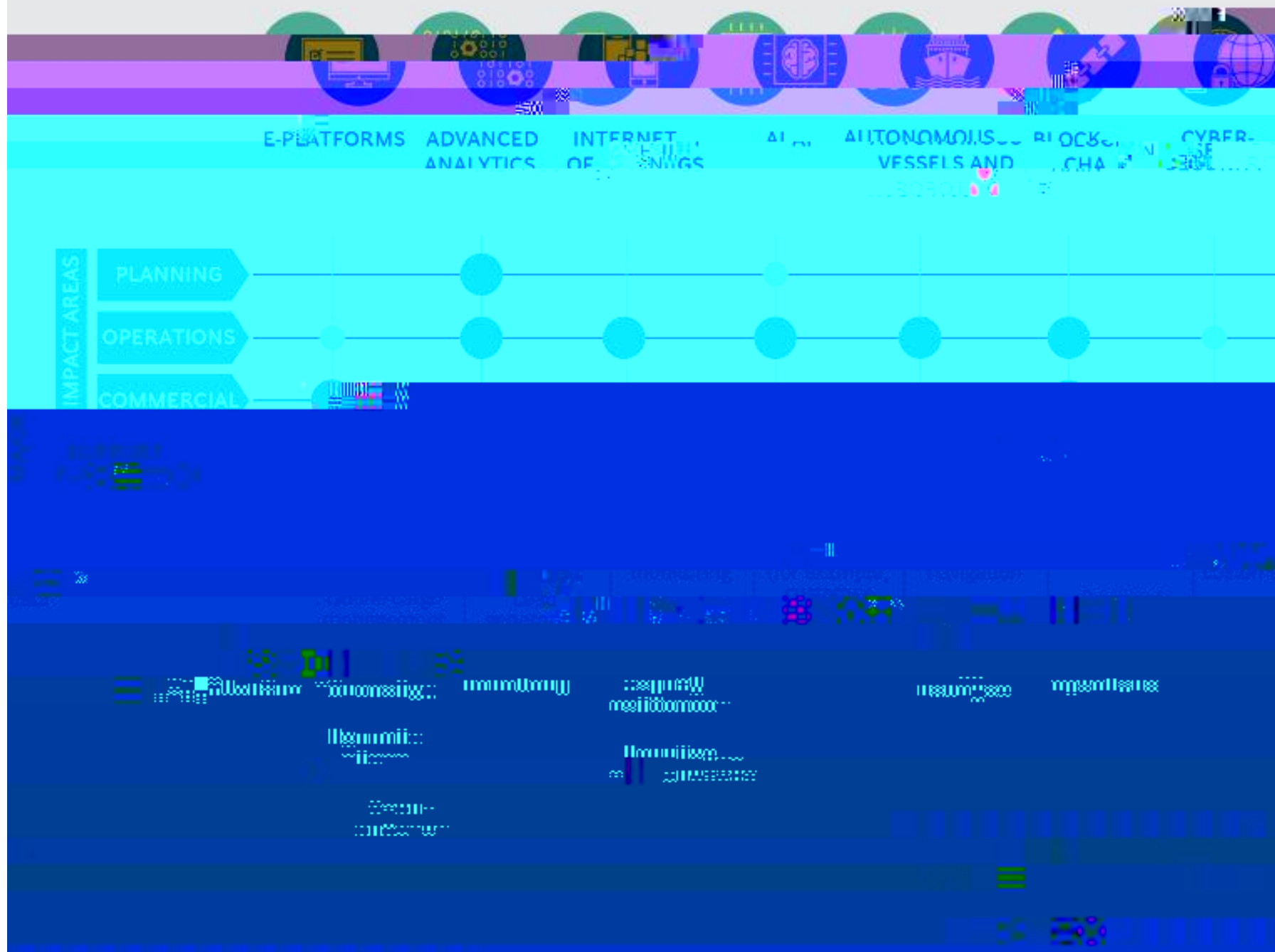


EXHIBIT 2 | Seven Digital Trends Will Transform Container Shipping



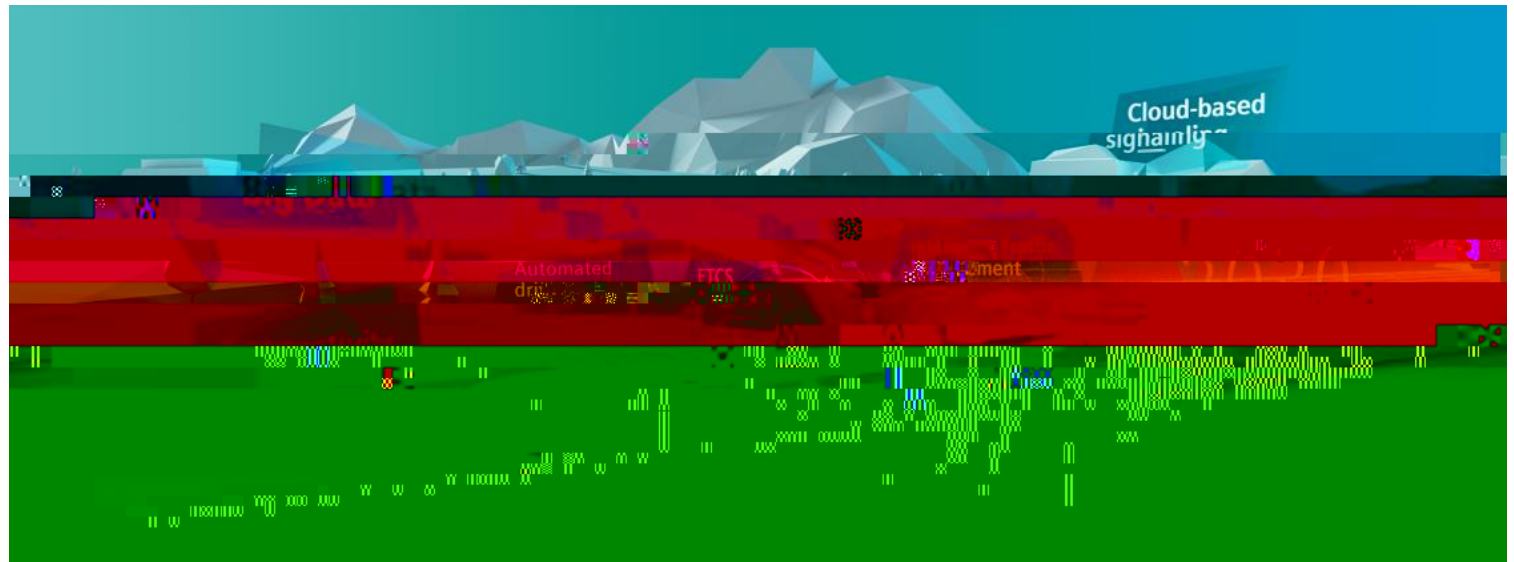
Autonomous trains

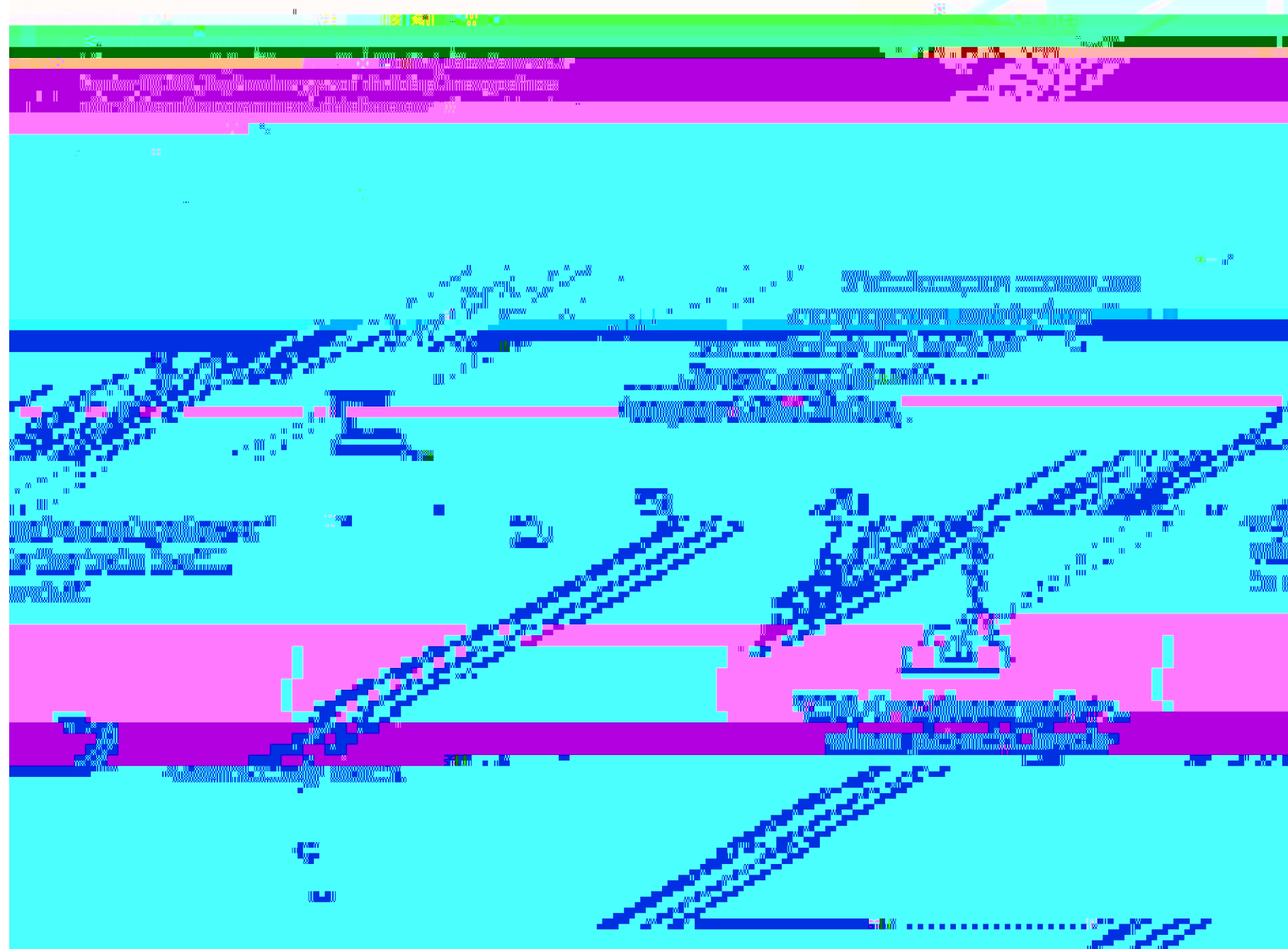
Signalling and traffic management

Digital train control

Digital platforms for predictive maintenance and reparation

E-ticketing

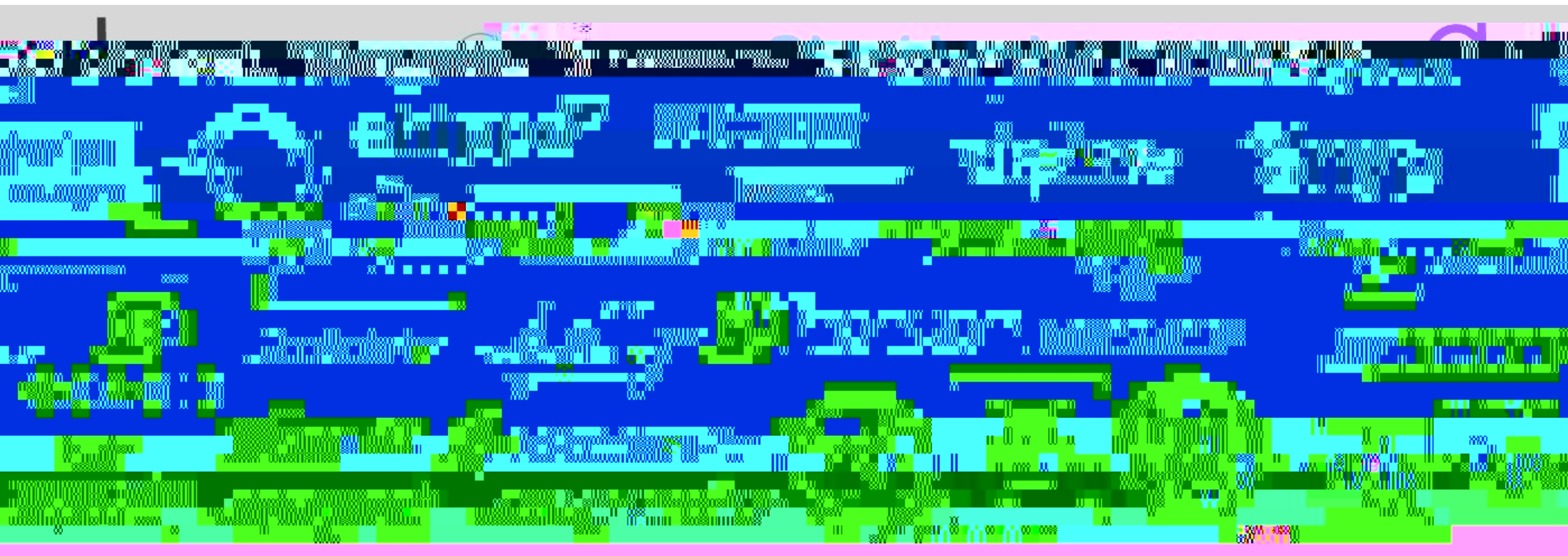


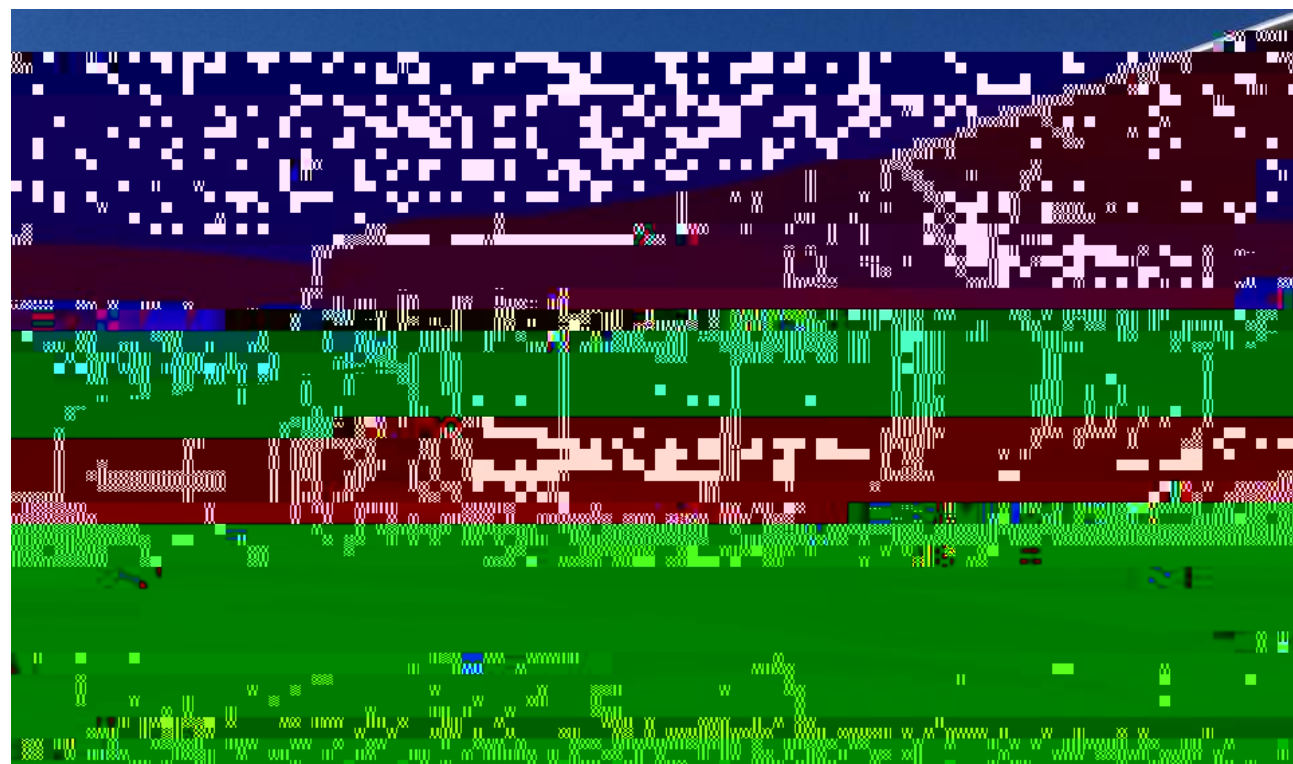


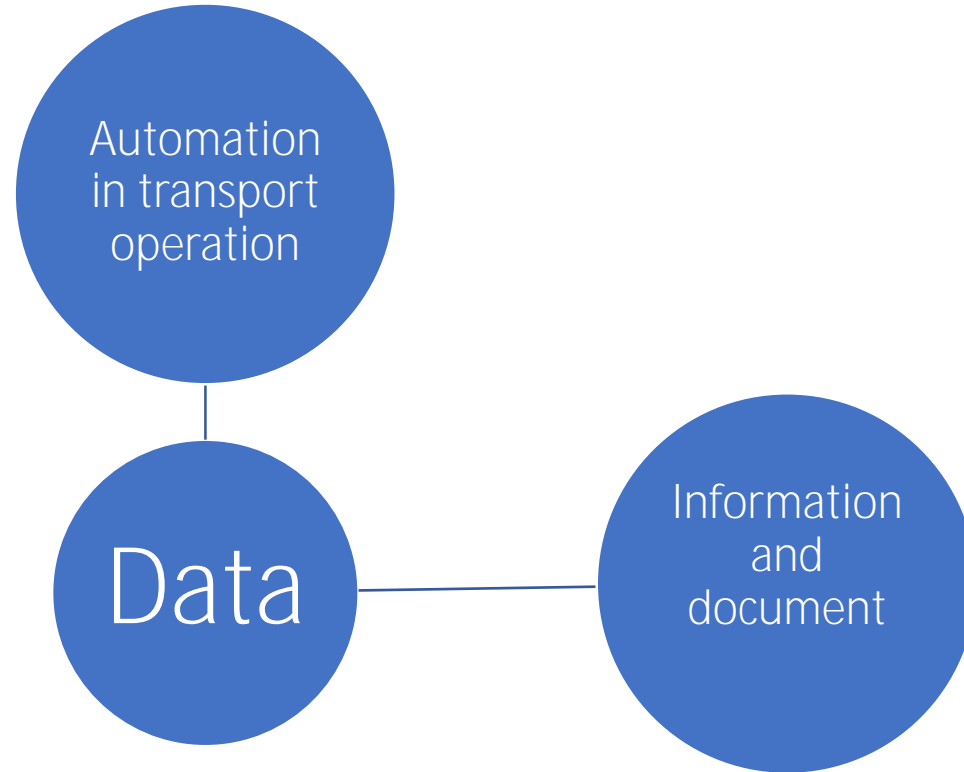
○ Digital technologies (e.g. AI, IoT, automation, Big Data Analytics, etc.) provides possibility to address chronic urban transport problems, e.g. traffic jams; lack of choice for consumers; inefficient utilization of vehicles and space; pollution; etc.

- Data collection and data analytics help better identify causes of problems and find solutions;
- Data-driven new public transport services: e.g. Via Van, US-German joint venture, on-demand, dynamic, d1Lang (en-GB) BDC q0.0000045 90 4 m0 g0 G(-)]TET@M









Data is crucial not only for the operation of business, but also for governance and policy-making in the age of digitalization;

Some other issues also become prominent: interoperability between different systems, harmonization of individual digitalization initiatives, standardization, safety, cybersecurity, etc.

Synergies with other sectors require a holistic digital strategy to build a supportive ecosystem;

Disruptive effects of digitalization on incumbent services and service suppliers require balancing policies and regulations;

Policies and regulatory framework should foster innovations which are not only sources of competitiveness, but also beneficial to public good.

