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Superior Connectivity for Teleoperation of Robots & Autonomous Vehicles

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DriveU's Mission

To provide the best connectivity platform for teleoperations and other applications, that enables Autonomous Vehicles and Robots to safely accomplish their mission in scenarios where they are unable to operate independently, through:

- **Using cellular bonding and dynamic video encoding**
- **SW-based solution with open APIs**

Customers include: Robotaxis (Confidential), driverless shuttles (e.g. EasyMile), Autonomous Trucks (e.g. Gatik), Tier 1 Suppliers (e.g. DENSO) and delivery robots (e.g. Coco Delivery and Serve Robotics)

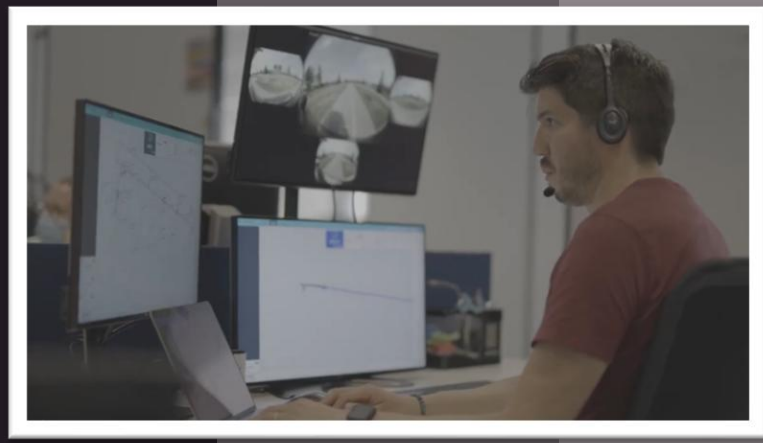
Sample automotive use case

Sample robot use case

Modes of Teleoperations

REMOTE DRIVING

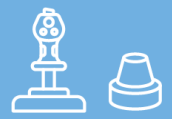
REMOTE ASSIST



Modes of Teleoperations

REMOTE DRIVING

REMOTE ASSIST

	T0	T1	T2	T3	T4	T5
Teleoperation Mode	Direct Drive	Low level control	High level control	Guide	Advise	Supervise
Pilot role	FULL control	Remote drive	Remote drive	Path planning	Respond	Monitor
Vehicle role	NONE	Validate / MRM	Control / MRM	Plan / MRM	Drive / MRM	Drive/MRM
Who's in charge of safety?	Driver	Vehicle	Vehicle	Vehicle	Vehicle	Vehicle
Input						
Sample Latency	100msecs	100msecs	150msecs	200msecs	250msecs	300msecs
Sample use cases	Robots, Mining, Agri	Low speed vehicles, Robots	Highway	Urban	Mature AI, Complex cases	Regulatory requirement
						

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Sample Autonomous Drive

- **Unsupervised autonomous drive**
  99% of the time
- **Operation in logistics center**
  Low lever control for reverse driving and complicated maneuvers (T1)
- **On ramp to highway**
  High level control to initiate merge / change lane (T2)
- **Unexpected scenario**
  Guide using waypoints and remove restrictions (T3)
- **Urban drive to warehouse**
  Assist entering intersection (T4)
- **School zone**
  Regulatory requirement for supervision by human operator (T5)

On ramp to highway

Drive to warehouse

Operation in logistic center

Unexpected scenario

School zone

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DriveU remote driving demo

https://youtu.be/ULdXBRxeGPA

DriveU Benefits

- **Best performance + balance tradeoffs: latency/video quality/operational costs**
  - Expertise in video, cellular and satellite communications
  - Support different target requirements in the same platform
- **SW based solution for reducing total cost of ownership**
  - All hardware can be provided by customer
- **Open platform that easily integrates to existing SW stack**
  - Simple integration to vehicle and to remote control stations, providing customizability & independence
- **Safe, Secure and Scalable**
  - Robust safety and security frameworks, certified and deployed on public roads
  - Scalable to thousands of systems, currently in use >140hours of teleoperations every day

Thank You!

Get superior connectivity for your teleoperations

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