

In the driver's seat with brighter AI and Dell Technologies

Compliance with regional Data Privacy Regulation in global, dispersed ADAS/AD projects utilizing brighter redact Enterprise and Dell.

brighter AI benefits

Deep Natural Anonymization

- Age, gender, line of site attributes preserved
- Unauthorized personal/personally identifiable information replaced

Compatibility

- Camera-independent software for all common image/video formats
- Full HD support

Flexibility, control, compliance

- On-prem deployment – data never leaves your data center
- Docker container for easy setup
- Connect via API or web-based UI

Certification

- EuroPriSe certificate for privacy-compliant IT products

Overview

The automotive industry is in a race to develop advanced driver assistance systems and autonomous driving (ADAS/AD) vehicles. To build an ADAS/AD featured car today, OEMs and suppliers must gather massive amounts of data to train and validate AI-algorithms that will ultimately control the vehicle. The scale of data required depends on the complexity of the safety solution. The Society of Automotive Engineers (SAE) defines six autonomy levels, ranging from 0 (warning lights only) to 5 (full automation – no steering wheel). Most projects today fall between Level 2 (requiring a few petabytes) to Level 5 (requiring multiple exabytes). Even the smallest program must plan for data management upfront to avoid delays and potential failure.

As driving rules, signage and even driver behavior vary dramatically by region, sensor data for training and validation must be collected and made accessible worldwide – significantly increasing data management complexity. Regional legislation (EX: GDPR) which restricts the storage, access and use of data containing unauthorized personal information or personal identifiable information (PII), such as faces and license plates, adds further complexity. These data privacy restrictions can prevent OEMs and suppliers from making sensor data available between geographies. Simplistic solutions to data privacy, such as blurring faces, can create unintended consequences that impact safety features like pedestrian detection. To develop a vehicle that serves global markets, a data accessibility solution must address privacy concerns – while also delivering scale, performance, and security.

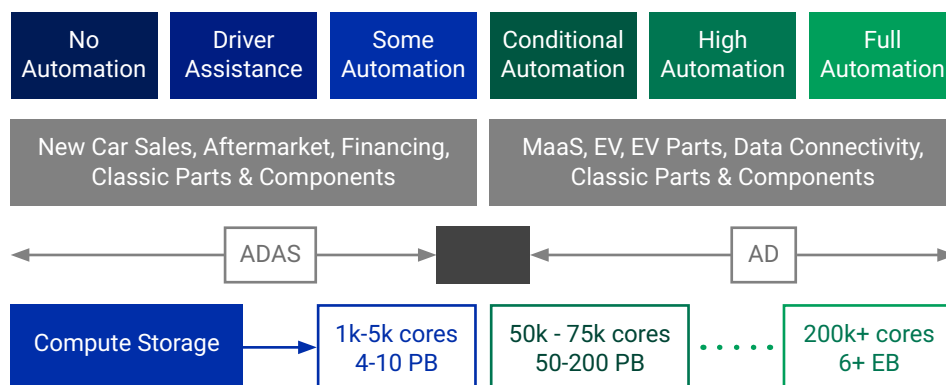


Figure 1. SAE Levels of Autonomy

Dell Technologies benefits

Proven ADAS/AD solutions

- PowerScale, ECS, PowerEdge
- Pre-tested, customer-proven smart edges and core infrastructure optimized for ADAS/AD
- AI/ML/DL solutions with NVIDIA™ GPUs

Platform of choice for ADAS/AD

- > 70% of leading tier-1 suppliers
- 50+ ADAS/AD organizations

Massive storage scalability

- Unstructured and object-based storage solutions
- Multi-tiered, single-volume
- Linear performance growth with capacity

Edge-to-Core-to-Cloud solutions

- On-prem Data Center
- Edge-compute
- Cloud-adjacent
- Cloud-native
- aaS

Dell Technologies and brighter AI

Developers need a solution that enables global access to distributed data, without violating regional security and privacy rules. That's why Dell Technologies, a leader in ADAS/AD infrastructure solutions, has partnered with brighter AI, a leader in data anonymization solutions. The combination of Dell's PowerScale scale-out storage and PowerEdge high-performance compute with brighter AI's brighter redact Enterprise delivers a proven solution that meets the rigors of scale, performance, management, security, and privacy.

Value-preserving anonymization for autonomous driving systems

Instead of blurring, brighter AI's Deep Natural Anonymization creates a synthetic face overlay that protects individuals from recognition while retaining data quality for machine learning.

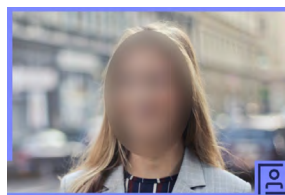
The software works by extracting the original face while identifying certain attributes which are important for the neural networks to understand. This includes age, ethnicity, and gender, as well as the facial expression and direction of gaze. It then creates an entirely synthetic face which retains these attributes but doesn't allow for automatic identification by subtle adjustments from the original. Similarly, the anonymization software replaces license plates with replicas, removing any negative impact on neural networks.

Original



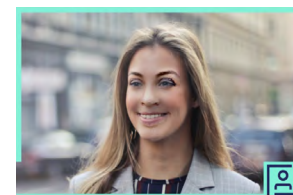
⊗ Not privacy compliant
(includes personal data)

Precision Blur



✓ Identities protected

Deep Natural Anonymization



✓ Identities protected

✓ Natural appearance

✓ Applicable for analytics and machine learning

Figure 2. Traditional anonymization vs. Deep Natural Anonymization

In comparison to blurring, brighter redact Enterprise's Deep Natural Anonymization algorithm preserves semantic segmentation. Segmentation maps are almost identical to the original. brighter AI's solution fulfills the highest demands in terms of accuracy and data quality, has been proven to make individuals unrecognizable, and complies with all major worldwide privacy regulations (GDPR, PIPL, CCPA, CSL). Crucially, by extracting the original face or license plate and replacing it, the procedure is irreversible. To maximize data privacy compliance, brighter AI can be deployed on-prem, optimally using Dell Technologies PowerEdge Servers with PowerScale storage.

brighter AI anonymization software, deployed on Dell Technologies PowerScale allows you to:

- Anonymize large datasets already on the remote site to maximize data privacy compliance.
- Compliantly share video data with suppliers, partners, and customers around the world.
- Maintain data quality and crucial attribute information such as gender, age, line-of-sight, etc.
- Avoid common sensor storage challenges including scalability, performance, efficiency, and cost.

Extract full value of sensor data while protecting personal data privacy

By partnering with Dell Technologies and brighter AI, companies can collect privacy conflicted data with anonymization – enabling them to avoid breaching legal regulations in most countries. Mishandling of privacy data can result in heavy fines that severely impact business operations. With Dell and brighter AI, fines and potential damage to reputations can be avoided. In the digital age, people are becoming increasingly concerned about personal privacy, and more likely to punish companies that mishandle it. By architecting your ADAS/AD data collection and storage solutions to protect such data upfront, companies can leverage the maximum value of their data while dramatically reducing the risk of costly errors.

About Dell Technologies

Dell Technologies helps automotive companies pursue new data-driven business opportunities in the software-defined era with future-proof infrastructure built on scalable, high-performance storage systems, intelligent servers, access to your choice of public cloud services, a streaming data platform, and a well-vetted ecosystem of software partners. We can support both traditional workflows and data-intensive, emerging AI workflows. Dell Technologies solutions offer simplified data management and predictable performance all at the massive scale required for ADAS/AD development and testing.

About brighter AI

brighter AI develops game-changing image and video anonymization software to protect identities. Anonymization is crucial to comply with privacy regulations like GDPR, CCPA, APPI, and CSL. At the same time, data quality is the backbone of AI innovation and machine learning. With our data protection software, there is no trade-off between privacy and video analytics. To learn more about brighter AI, [click here](#).



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