Automated Valet Parking Demonstration
- Corktown -

Center for Automotive Research

November 2, 2020
Detroit Automated Valet Parking (AVP) Demonstration

Ford, Bedrock, and Bosch
Formed a unique cross-industry partnership to produce
1st NA AVP technology demonstration - in Detroit!

Bedrock Assembly Garage - Corktown

2 Ford Escapes enabled with Bosch AVP
Automated Valet Parking (AVP) Demonstration

Stakeholder Value

For drivers searching for a parking space

For vehicle manufacturers

For real estate development companies and parking facility operators
VEHICLE REQUIREMENTS

- Automatic transmission
- Electric power steering system
- ESP
- Start/stop function
- Electric parking brake
- Communications unit
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Solution Enablement

INFRASTRUCTURE REQUIREMENTS

- cloud back end
- connectivity hardware
- sensors
- parking garage server*

*will be replaced by cameras as edge device in the future
Key Takeaways

Automated Valet Parking (AVP) Demonstration
Detroit Automated Valet Parking (AVP) Demonstration
Demonstration Rollout: Results Overview

**Demonstration Rollout**

1. **Executive Briefing**
   - **Aug 18**
   - Ford, Bedrock and Bosch execs

2. **Media Event**
   - **Aug 26**
   - Earned media stories in US alone – **221 stories** reaching potential audience of **875M**

3. **Industry Event**
   - **Sep 3**
   - **90 Participants** including 44 people from 12 OEMS and participation from 11 other mobility categories

4. **Live Demos**
   - **Sep 7 – Oct 2**
   - **45 Individual demonstrations** (**120+ people**) across mobility ecosystem
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Demonstrations: Preliminary Survey Feedback (40% Response Rate)

- **78%** have experienced a driverless vehicle previously

- **100%** stated that the AVP Technology “Met” or “Exceeded” their expectations
  - **42%** say AVP tech “exceeded their expectations”

- On a scale of 1 to 5, **90%** of participants scored AVP greater than 4 in its ability to manage the parking experience

- **78%** willing to pay for AVP feature
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Takeaways (1 of 2)

- Infrastructure ...
  - Infrastructure-based valet parking could be faster to market than vehicle-based solution
  - Infrastructure input (V2I) will always be critical – even to the most capable AV's

- Scaling ...
  - Industry standards critical
  - Infrastructure / OEMs lifting at same rate

- Government / Regulators ...
  - High interest in data interface ...
  - ... But minimal jurisdictional interest
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Takeaways (2 of 2)

- Live demonstration in real-world environment important to understanding / acceptance

- ROI to infrastructure provider / parking operator focused around:
  - Increased density
  - Competitive advantage
  - Incremental services / process optimization
  - Decreased liability

- Stereo-camera based solution...
  - Extremely compelling to infrastructure providers
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Stuttgart Airport: Fully Automated and Driverless Parking

- The new Mercedes-Benz S-Class is equipped with the technology to enable driverless, fully automated parking.

- For AVP, Bosch is using camera-based infrastructure for the first time to detect lanes and obstacles.

- The parking garage operator Apcoa is testing barrier and payment functions as the basis for automated valet parking, enabled by its APCOA FLOW digital mobility platform.
Automated Valet Parking (AVP) Demonstration
Reference Material

▶ Detroit AVP Demonstration Videos

https://www.youtube.com/playlist?list=PLvPEEHwpQNMQBZzD3UhDwSj2c1k4CEi15

▶ Stuttgart Airport AVP Video

https://www.youtube.com/watch?v=B5dgKed7BTw&feature=youtu.be
THANK YOU!