November 14, 2019

Building a Taxonomy for Shared Mobility

https://transportation.libguides.com/TLR

Audio call-in number: 877-336-1274; Access code: 5759713

SAE INTERNATIONAL

ADVANCING GLOBAL MOBILITY SOLUTIONS

Tim Weisenberger, Program Manager, Emerging Technologies
Annie Change, Program Manager, Shared and Micromobility

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SAE International

Our Mission: To advance mobility knowledge and solutions for the benefit of humanity.

145,000

ENGINEERS
EXECUTIVES
EDUCATORS
STUDENTS

SAE International's core competencies are life-long learning and voluntary consensus standards development.

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3

A Multi-faceted Company Driving the Future of Mobility

SAE is the leader in connecting and educating mobility professionals to enable safe, clean, and accessible mobility solutions.

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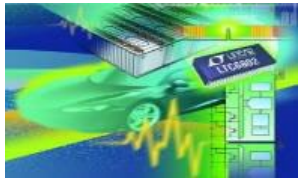
4

SAE Standards in Advanced Technology Portfolio

Wireless Charging

Driver-Vehicle Interface



Electronics System Reliability

Driving Automation Systems

ADAS and Active Safety

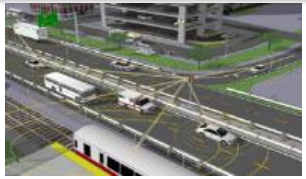
The Common Thread?

Emerging, Disruptive Technologies

Shared Mobility

EV/Hybrid/FC Vehicle & Battery

Vehicle Electronics Cyber Security



Intelligent Transport Systems

Mobility for Elderly and Persons with Disabilities

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Standards in Disruptive Technologies

Require new methods…

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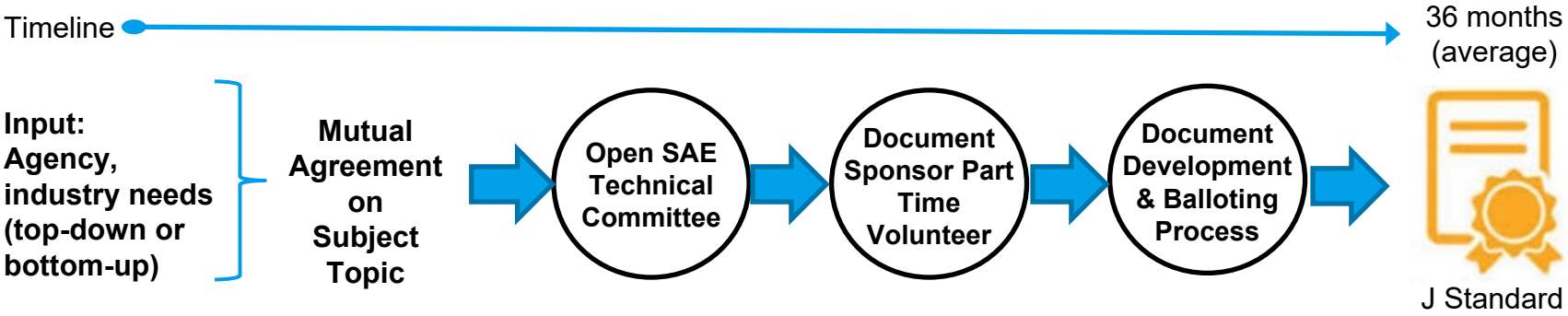
SAE Traditional Standards Development Process

Open, Transparent and Consensus-based



Drawbacks:

Consensus takes time

Standards experts are volunteers

Competitive pressure waters down detail

Caveat:

Traditional standards are developed for mature technologies, systems, and business approaches

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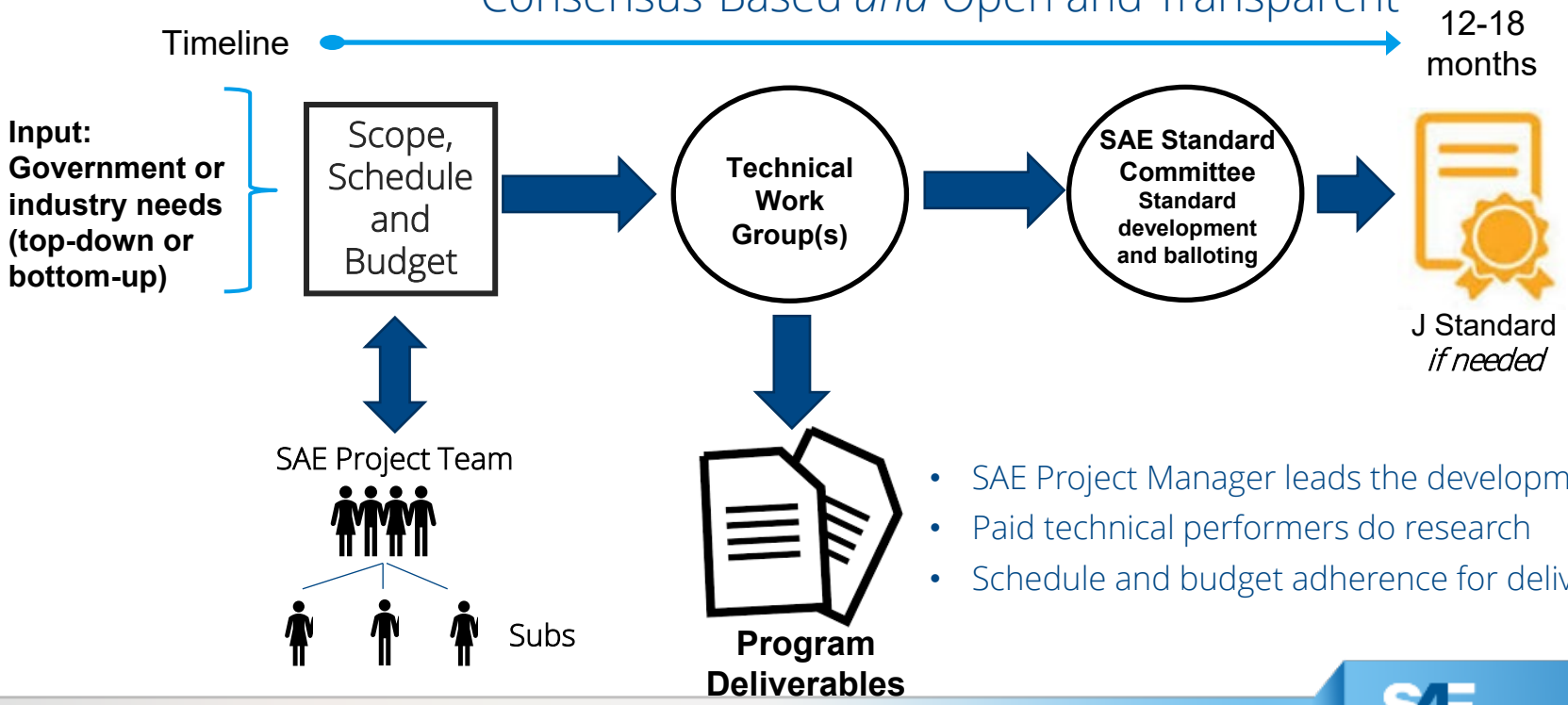
SAE Expedited Standards- Pre-competitive Research + Standards

Cooperative Research Projects: Consensus-Based *and* Open and Transparent



- SAE Project Manager leads the development
- Paid technical performers do research
- Schedule and budget adherence for deliverables

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SAE Consortium Approach

SAE Industry Technologies Consortia (SAE ITC)

SAE ITC is a 501(c)(6), which allows SAE to promote common business interests to improve business in industry.

ITC can bring together industry competitors in an environment “closed” to the public to engage in pre-competitive research while avoiding anti-trust concerns.

https://www.sae-itc.com/

Mission

SAE ITC enables organizations to connect, collaborate and positively impact global industries by empowering implementation of precompetitive solutions and innovative technologies.

Vision

We are a trusted global leader in consortia-based collaborative tools and services for highly technical industries’ operations and supply chain, especially automotive and aerospace.

Collaborative Innovation. Trusted Implementation.

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EMERGING STANDARDS FOR EMERGING MOBILITY

November 14th, 2019

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Annie.Chang@sae.org

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HELLO

my name is

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Head of New Mobility

SAE International

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HELLO

my name is

Adam Cohen

Researcher

UC Berkeley

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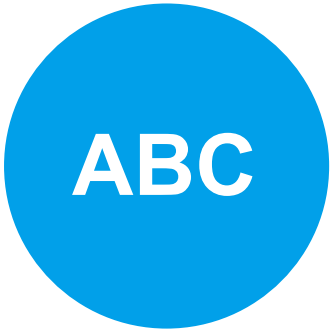
SAE Shared and Digital Mobility Committee

The mission of this committee is to advance the field of shared and digital mobility through the development of industry standards. The standards will serve to:



CREATE A COMMON LANGUAGE

HARMONIZE GLOBAL MARKETS

FACILITATE INTEROPERABILITY

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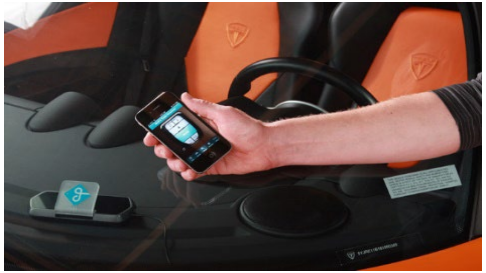
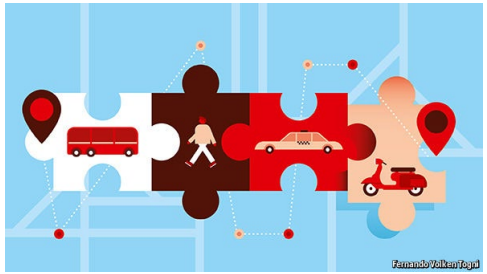
This Committee Could Work on…

SHARED
AUTOMATED VEHICLES



CARSHARING
VEHICLE ENTRY

BIKESHARING
TECHNOLOGIES

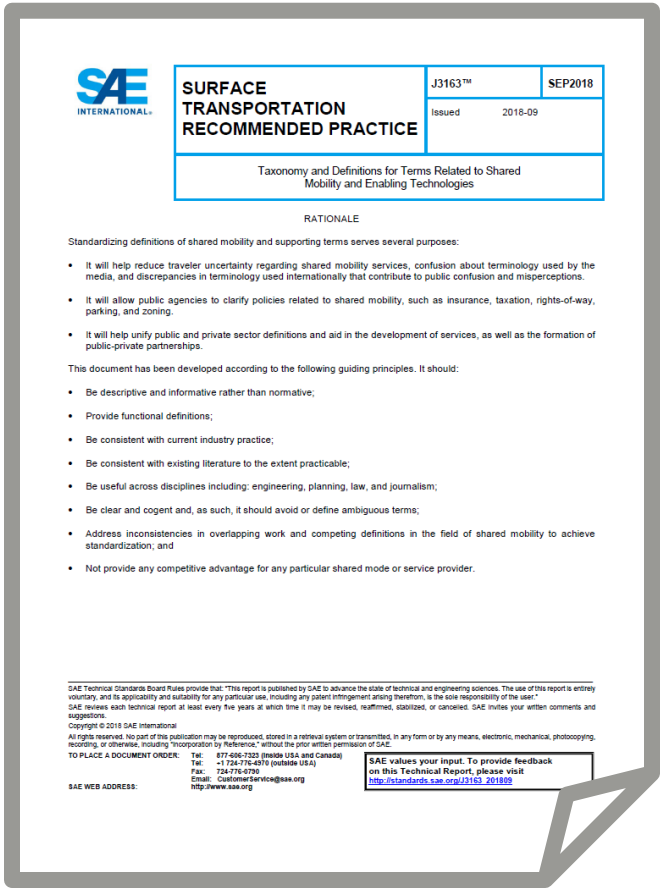


MOBILITY-AS-A-SERVICE
API

DATA FROM
MOBILITY PROVIDERS

?

Image source (clockwise from top left): Volvo; Getaround; Fyxation, Fernando Volken Togni; Uber



SAE INTERNATIONAL

SURFACE TRANSPORTATION RECOMMENDED PRACTICE

J3163™ SEP2018

Issued 2018-09

Taxonomy and Definitions for Terms Related to Shared Mobility and Enabling Technologies

RATIONALE

Standardizing definitions of shared mobility and supporting terms serves several purposes:

- It will help reduce traveler uncertainty regarding shared mobility services, confusion about terminology used by the media, and discrepancies in terminology used internationally that contribute to public confusion and misperceptions.
- It will allow public agencies to clarify policies related to shared mobility, such as insurance, taxation, rights-of-way, parking, and zoning.
- It will help unify public and private sector definitions and aid in the development of services, as well as the formation of public-private partnerships.

This document has been developed according to the following guiding principles. It should:

- Be descriptive and informative rather than normative;
- Provide functional definitions;
- Be consistent with current industry practice;
- Be consistent with existing literature to the extent practicable;
- Be useful across disciplines including: engineering, planning, law, and journalism;
- Be clear and cogent and, as such, it should avoid or define ambiguous terms;
- Address inconsistencies in overlapping work and competing definitions in the field of shared mobility to achieve standardization; and
- Not provide any competitive advantage for any particular shared mode or service provider.

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Email: CustomerService@sae.org
SAE WEB ADDRESS: http://www.sae.org

SAE values your input. To provide feedback on this Technical Report, please visit http://standards.sae.org/J3163_201809

We created a GLOSSARY

Taxonomy and Definitions for Terms Related to Shared Mobility and Enabling Technologies

Scope

A taxonomy describing the spectrum of shared mobility services, including definitions for shared modes (e.g., carsharing, bikesharing, etc.) and related terms and definitions (i.e., one-way, roundtrip, etc.).

Led by

Susan Shaheen, Ph.D., UC Berkeley
& Adam Cohen, UC Berkeley

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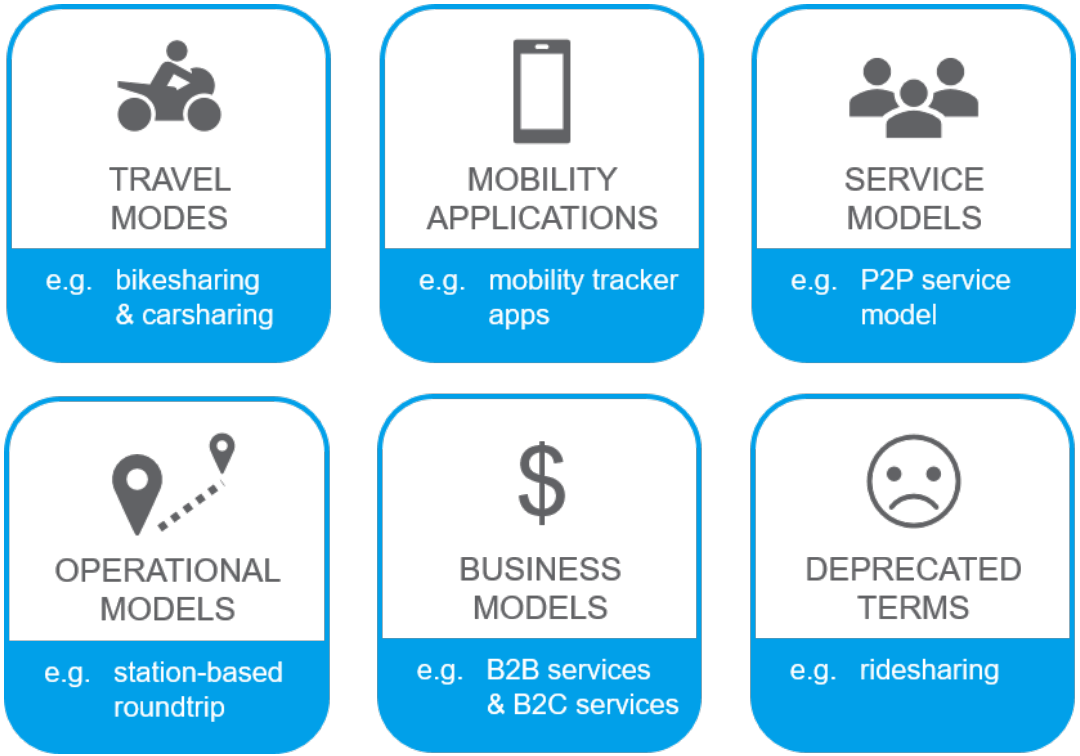
What is Covered in SAE J3163?



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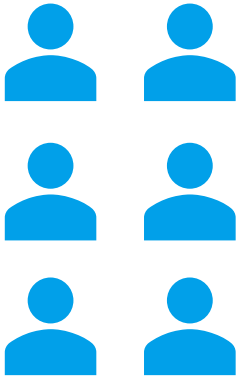
ACCELERATED development of J3163

1. COMMITTEE AGREES ON STANDARD SCOPE



December 2017

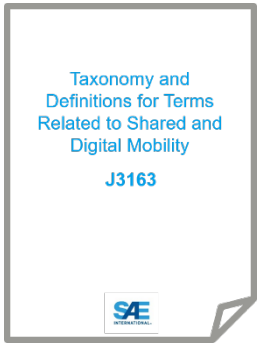
2. EXPERT PANEL DEVELOPS DRAFT

Spring 2018

3. BALLOT & COMMENT RESOLUTION

Summer 2018

4. PUBLISH STANDARD



Fall 2018

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Timeline for a Revised JA3163

1. COMMITTEE DEVELOPS SCOPE

Summer 2019

2. EXPERT PANEL DEVELOPS DRAFT

Fall 2019

3. BALLOT & COMMENT RESOL'N

Winter 2020

4. PUBLISH STANDARD

Spring 2020

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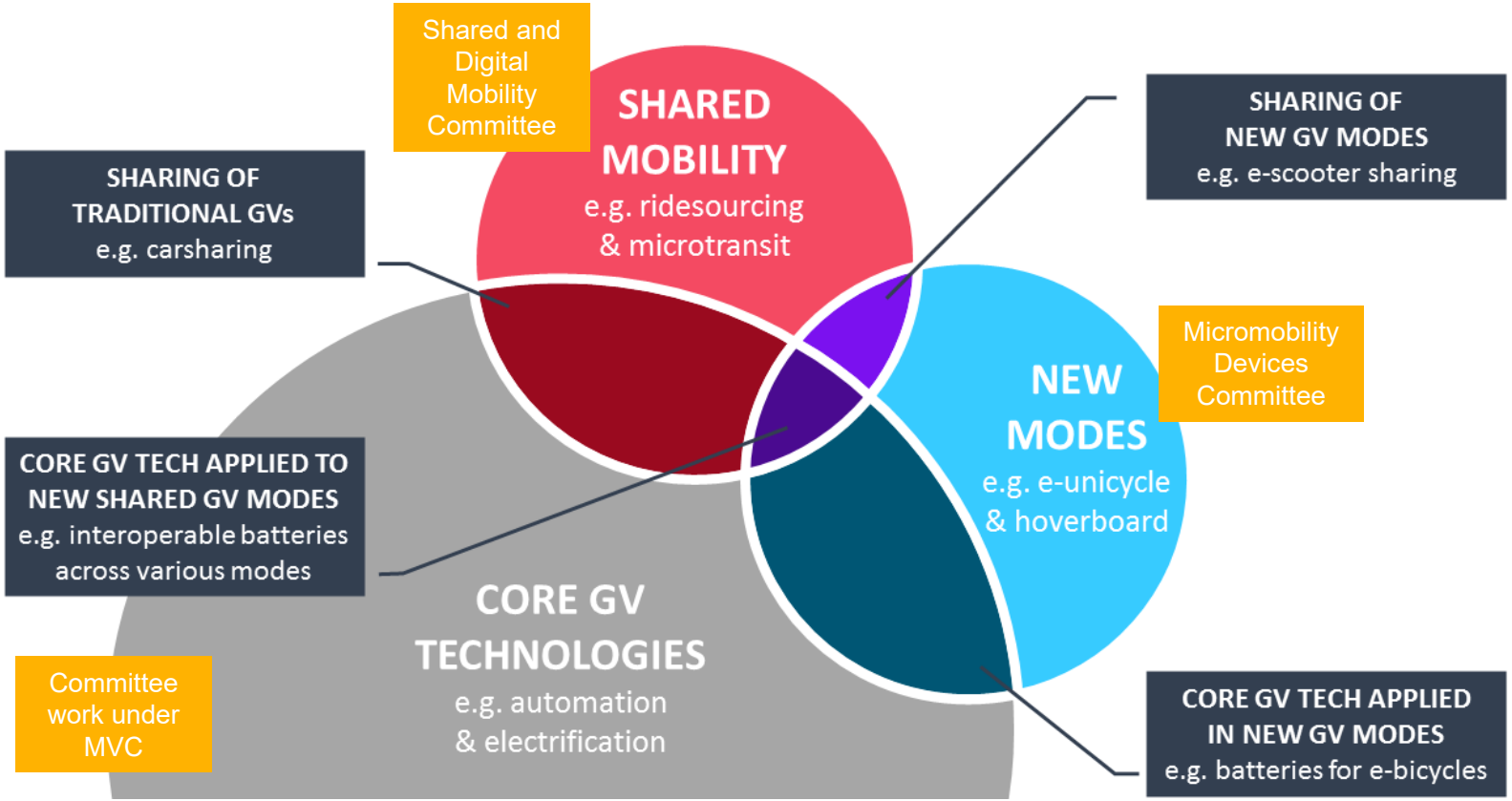
NEXT STEPS

Current Mobility Landscape & SAE Standards



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THANK YOU

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