



Connected Vehicles: Where Are We At?

Director Kirk Steudle, MDOT





MICHIGAN' INNOVATION = OPEN INVITATION

Over \$60
million
annually in
innovative
R&D

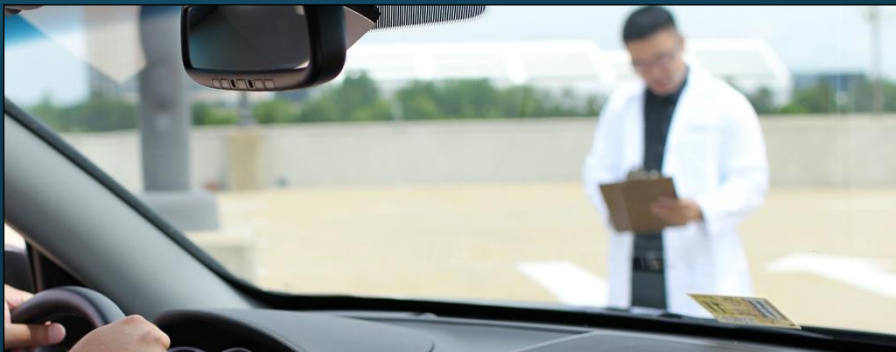
#1
For advanced
industry jobs
& businesses

Cutting edge
technology
known as the
Smart
Corridor

Michigan
leads US in
connected
vehicle
projects &
legislation



Open Invitation: Michigan's Legislation



SENATE BILL No. 995

LL No. 995

May 25, 2016. Introduced by Senators KOPALL, JONES, STAMAS, BRANDENBURG, WARREN, HERTTEL, COLBECK, SCHMIDT, MARLEAU, HORN and ANANICH and referred to the Committee on Economic Development and International Investment.

A bill to amend 1949 PA 302, entitled "Michigan vehicle code," by amending sections 2b, 402b, 441, 443a, and 445 (MCL 257.2b, 257.402b, 257.441, 257.443a, and 257.445), sections 2b and 445 as added and section 402b as amended by 2013 PA 231, and by adding sections 40c, 40d, and 445a; and to repeal acts and parts of acts.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 Sec. 2b. (1) "AUTOMATED DRIVING SYSTEM" MEANS HARDWARE AND
2 SOFTWARE THAT ARE COLLECTIVELY CAPABLE OF PERFORMING ALL ASPECTS OF
3 THE DYNAMIC DRIVING TASK FOR A VEHICLE ON A PART-TIME OR FULL-TIME
4 BASIS WITHOUT ANY SUPERVISION BY A HUMAN OPERATOR. AS USED IN THIS
5 SUBSECTION, "DYNAMIC DRIVING TASK" MEANS ALL OF THE FOLLOWING, BUT
6 DOES NOT INCLUDE STRATEGIC ASPECTS OF A DRIVING TASK, INCLUDING,

SENATE BILL No. 995

03186/15

KSD

SENATE BILL No. 996

LL No. 996

May 25, 2016. Introduced by Senators KOPALL, JONES, STAMAS, BRANDENBURG, WARREN, HERTTEL, COLBECK, SCHMIDT, MARLEAU, HORN and ANANICH and referred to the Committee on Economic Development and International Investment.

A bill to amend 1949 PA 302, entitled "Michigan vehicle code," (MCL 257.1 to 257.933) by adding section 440b.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 SEC. 440b. (1) A MOTOR VEHICLE MANUFACTURER MAY PARTICIPATE IN
2 A SAVE PROTECT IF IT SELF-CERTIFIES TO ALL OF THE FOLLOWING:
3 (A) THAT IT IS A MOTOR VEHICLE MANUFACTURER. A PERSON THAT IS
4 NOT A MOTOR VEHICLE MANUFACTURER MAY NOT PARTICIPATE IN A SAVE
5 PROTECT.
6 (B) THAT EACH VEHICLE IN THE PARTICIPATING FLEET IS OWNED OR
7 CONTROLLED BY THE MOTOR VEHICLE MANUFACTURER AND IS EQUIPPED WITH
8 ALL OF THE FOLLOWING:
9 (1) AN AUTOMATED DRIVING SYSTEM.

SENATE BILL No. 996

06007/16

KSD

SENATE BILL No. 997

LL No. 997

May 25, 2016. Introduced by Senators WARREN, KOPALL, JONES, STAMAS, BRANDENBURG, HERTTEL, COLBECK, SCHMIDT, MARLEAU, HORN and ANANICH and referred to the Committee on Economic Development and International Investment.

A bill to amend 1949 PA 302, entitled "Michigan vehicle code," by amending sections 2b and 401a (MCL 257.2b and 257.401a), section 2b as added by 2013 PA 231 and section 401a as amended by 2013 PA 138, and by adding section 440a.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 Sec. 2b. (1) "AUTOMATED DRIVING SYSTEM" MEANS HARDWARE AND
2 SOFTWARE THAT ARE COLLECTIVELY CAPABLE OF PERFORMING ALL ASPECTS OF
3 THE DYNAMIC DRIVING TASK FOR A VEHICLE ON A PART-TIME OR FULL-TIME
4 BASIS WITHOUT ANY SUPERVISION BY A HUMAN OPERATOR. AS USED IN THIS
5 SUBSECTION, "DYNAMIC DRIVING TASK" MEANS ALL OF THE FOLLOWING, BUT
6 DOES NOT INCLUDE STRATEGIC ASPECTS OF A DRIVING TASK, INCLUDING,
7 BUT NOT LIMITED TO, DETERMINING DESTINATIONS OR WAYPOINTS.
8 (A) OPERATIONAL ASPECTS, INCLUDING, BUT NOT LIMITED TO,

SENATE BILL No. 997

03463/16

KSD

SENATE BILL No. 998

LL No. 998

May 25, 2016. Introduced by Senators HORN, KOPALL, JONES, STAMAS, BRANDENBURG, WARREN, HERTTEL, SCHMIDT, MARLEAU and ANANICH and referred to the Committee on Economic Development and International Investment.

A bill to amend 1961 PA 236, entitled "Revised Judicature act of 1961," by amending section 2949b (MCL 659.2949b), as added by 2013 PA 251.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 Sec. 2949b. (1) The manufacturer of a vehicle is not liable
2 and ~~shall~~**MUST** be dismissed from any action for alleged damages
3 resulting from any of the following unless the defect from which
4 the damages resulted was present in the vehicle when it was
5 manufactured:
6 (a) The conversion or attempted conversion of the vehicle into
7 an automated motor vehicle by another person.
8 (b) The installation of equipment in the vehicle by another

SENATE BILL No. 998

03484/15

TDR



Open Invitation: Michigan's Legislation



3M and Michigan DOT building USA's first 'Connected Work Zone' on I-75

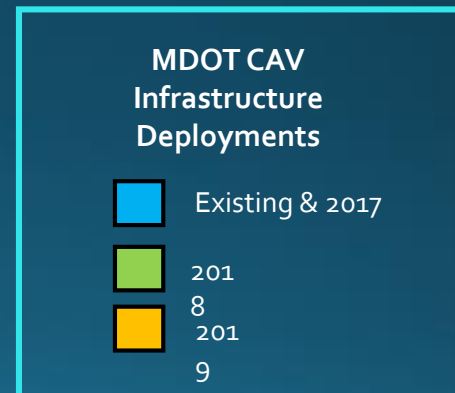


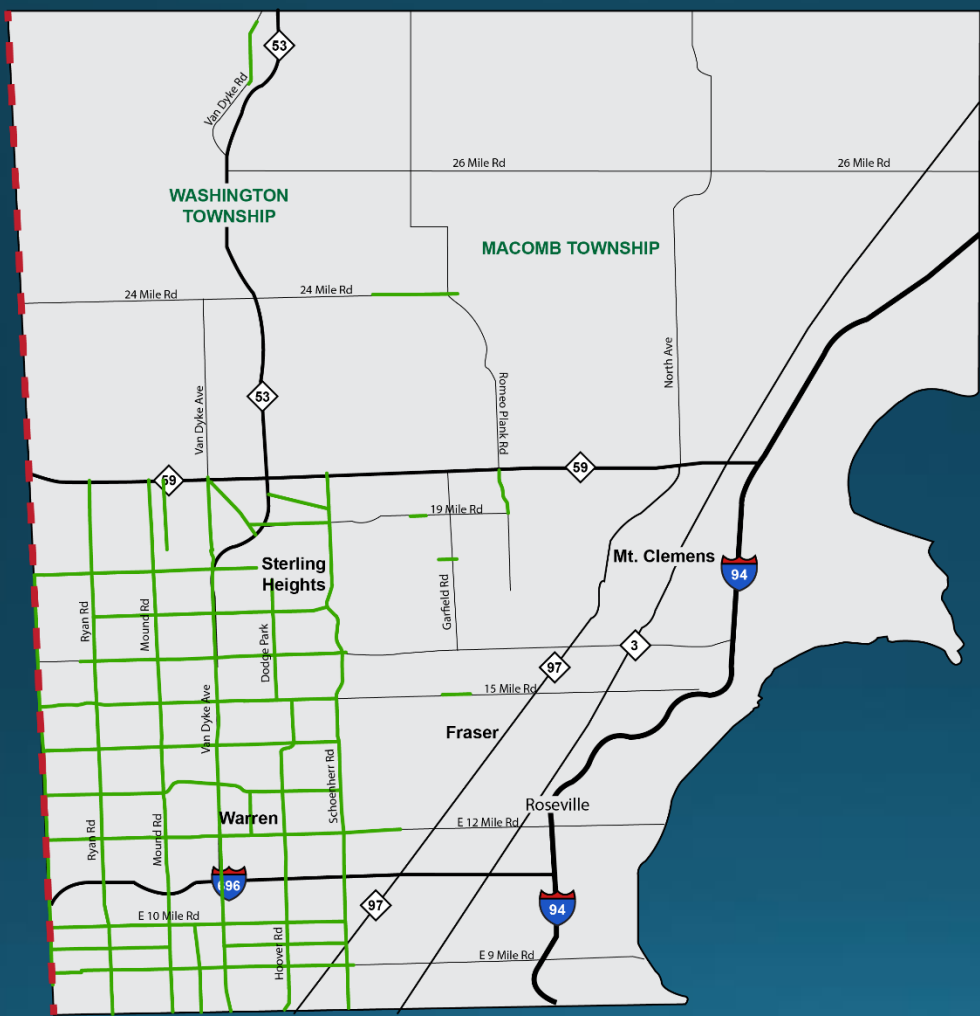
3M and the Michigan Department of Transportation (MDOT) are partnering to use vehicle-to-infrastructure (V2I) technologies to create the USA's first 'connected work zone' along more than three miles of I-75.

U.S. Army TARDEC and MDOT continue partnering on advanced vehicle technology

October 5, 2017 -- The U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) and the Michigan Department of Transportation (MDOT) have teamed up again to test connected and automated vehicle technology, this time on the Blue Water Bridge in







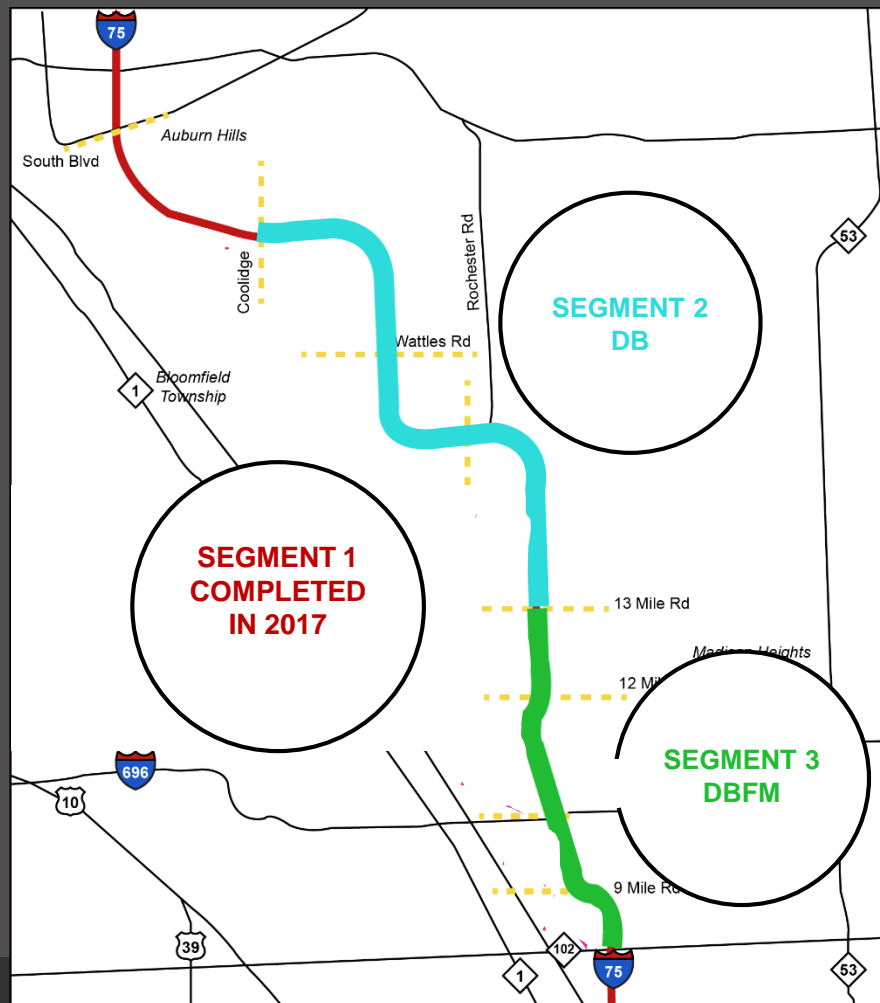
RSU CAV
Deployments in
Macomb County:

CAV Miles
Equipped BY 2019:
146

**Macomb
CDR
Deployments**

 Represents
RSU equipped
miles

 Represents
Macomb Co.
Border



INJURE/
KILL A
WORKER
\$ 7500 +
15 YEARS



Driver View



INJURE/
KILL A
WORKER
\$ 7500 +
15 YEARS



InfraRed View



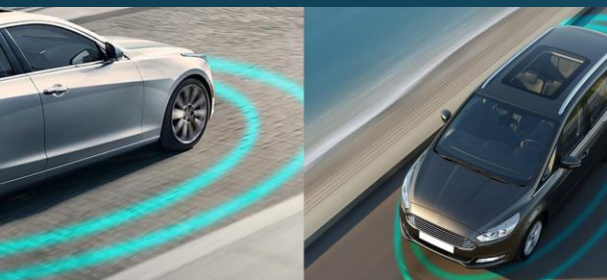
YOUR CONNECTED WORK ZONE.





TARDEC PLATOONING TESTING





**TOGETHER
WE CONNECT.**



CONNECTED AND AUTOMATED VEHICLES



Continental and Magna plan first international border crossing in autonomous vehicles

INDUSTRY

by Autocar Pro News Desk Aug 02, 2017



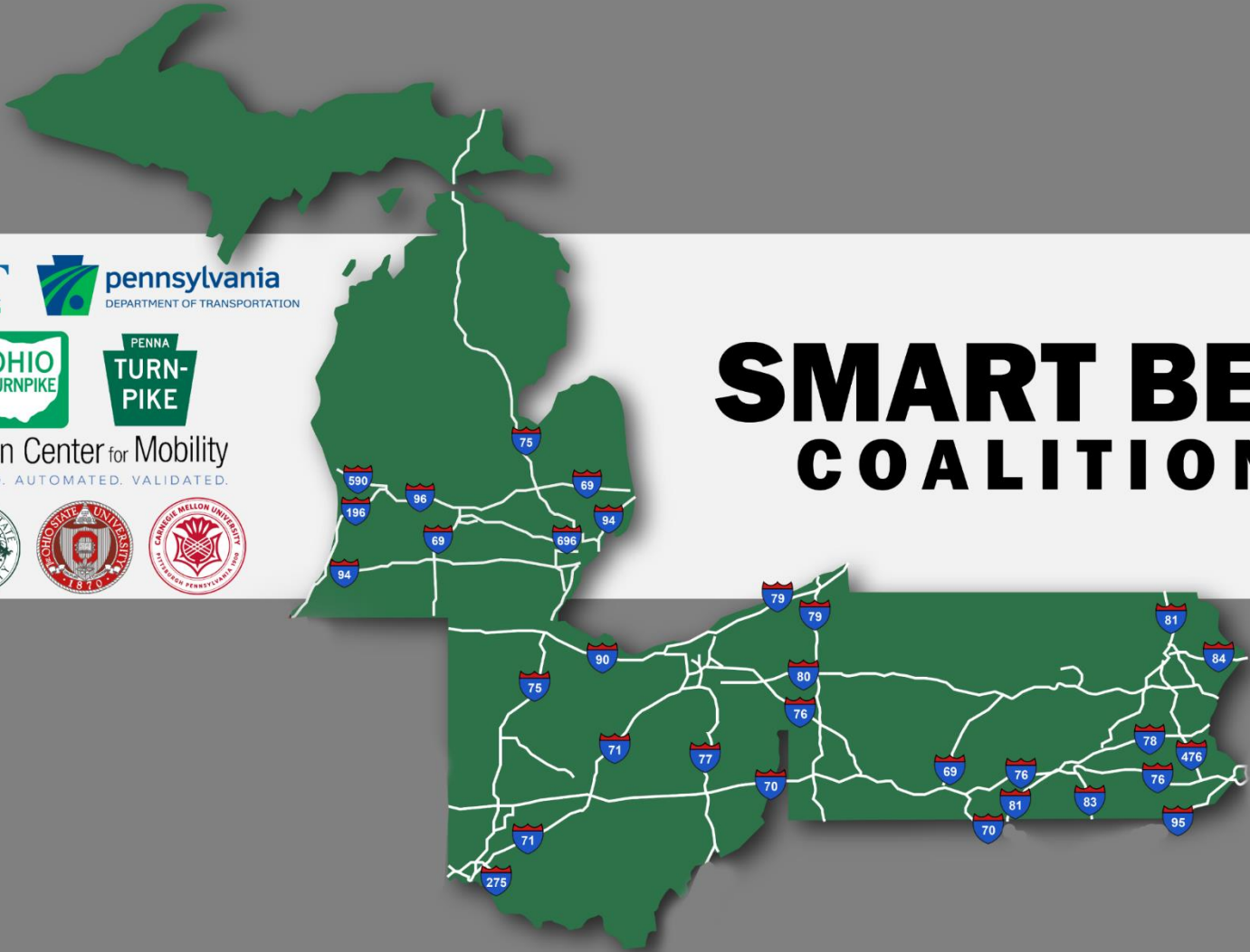
WE'VE GOT WHAT IT TAKES

- ✓ Connected Traffic Signals
- ✓ CAV Test Facilities
- ✓ DSRC
- ✓ Backhaul Communications
- ✓ LiDAR Maps
- ✓ RSU
- ✓ AV Legislation
- ✓ V2I Applications

The Perfect Ecosystem for Connected and Automated Vehicles



SMART BELT COALITION







American Center for Mobility

CONNECTED. AUTOMATED. VALIDATED.

Securing the Next Wave of Talent



Michigan
Technological
University



UNIVERSITY OF
MICHIGAN



GRAND VALLEY
STATE UNIVERSITY



DEARBORN



Wayne
County
Community
College
District



EASTERN MICHIGAN UNIVERSITY



WAYNE STATE



WESTERN MICHIGAN
UNIVERSITY



KETTERING
UNIVERSITY



MICHIGAN STATE
UNIVERSITY



Washtenaw
Community College

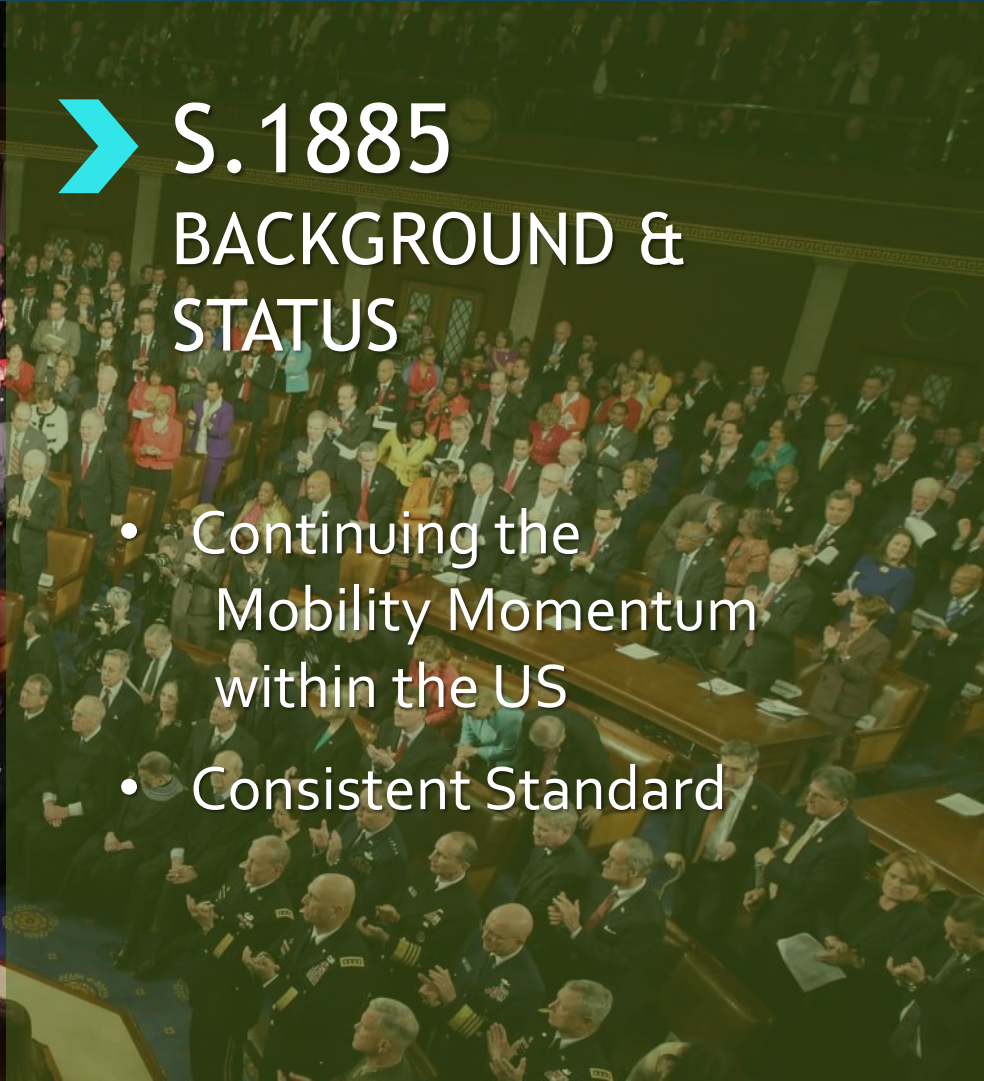
Michigan Council on Future Mobility





➤ S.1885 BACKGROUND & STATUS

- Continuing the Mobility Momentum within the US
- Consistent Standard





S.1885 CONTENT & OUTLOOK

- Preemption of State Laws
- Exemptions for Manufacturers
- Applicable to Heavy Trucks Undecided



Questions?



MICHIGAN

GLOBAL LEADER IN AUTOMATED TECH

7 GLOBAL
OR NORTH
AMERICAN
R&D HQ's

8 ORIGINAL
EQUIPMENT
MANUFACTURERS

#1 CONCENTRATION
IN ENGINEERING
TALENT

UNRIVALED

AUTOMOTIVE MANUFACTURING
RESEARCH & DEVELOPMENT