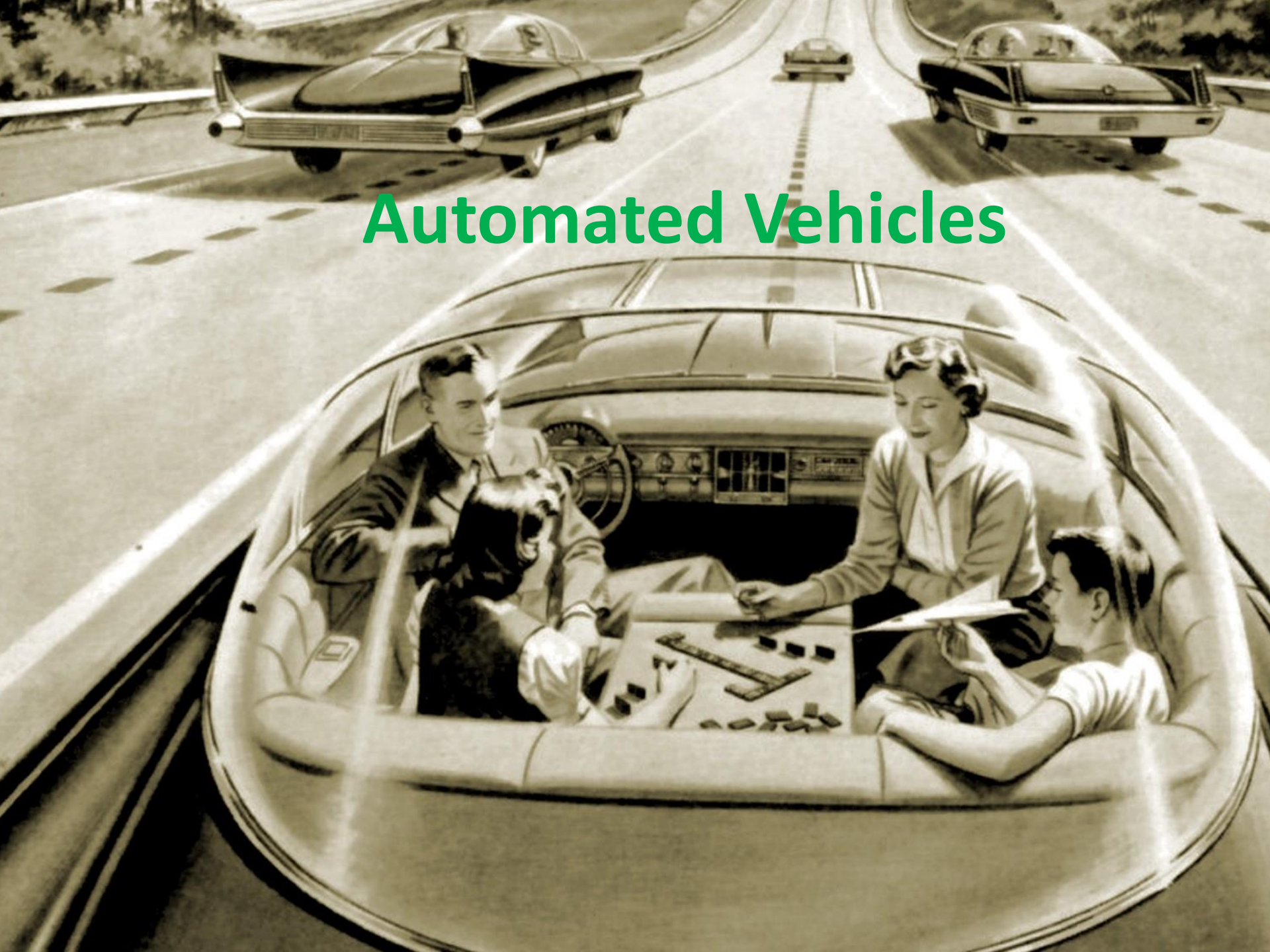


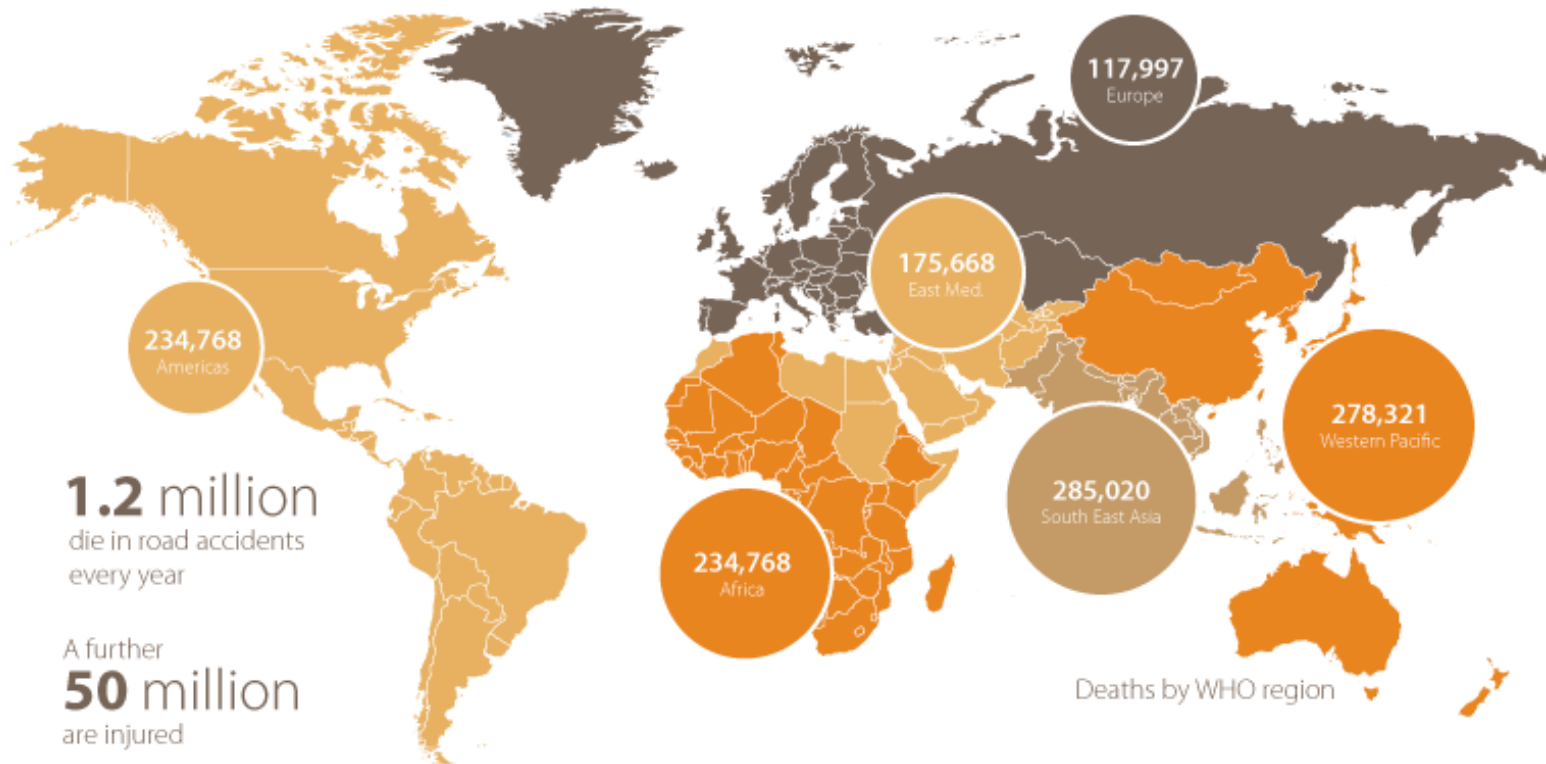
Automated Vehicles



The Motivation

Road Traffic Accidents: The Modern Killer

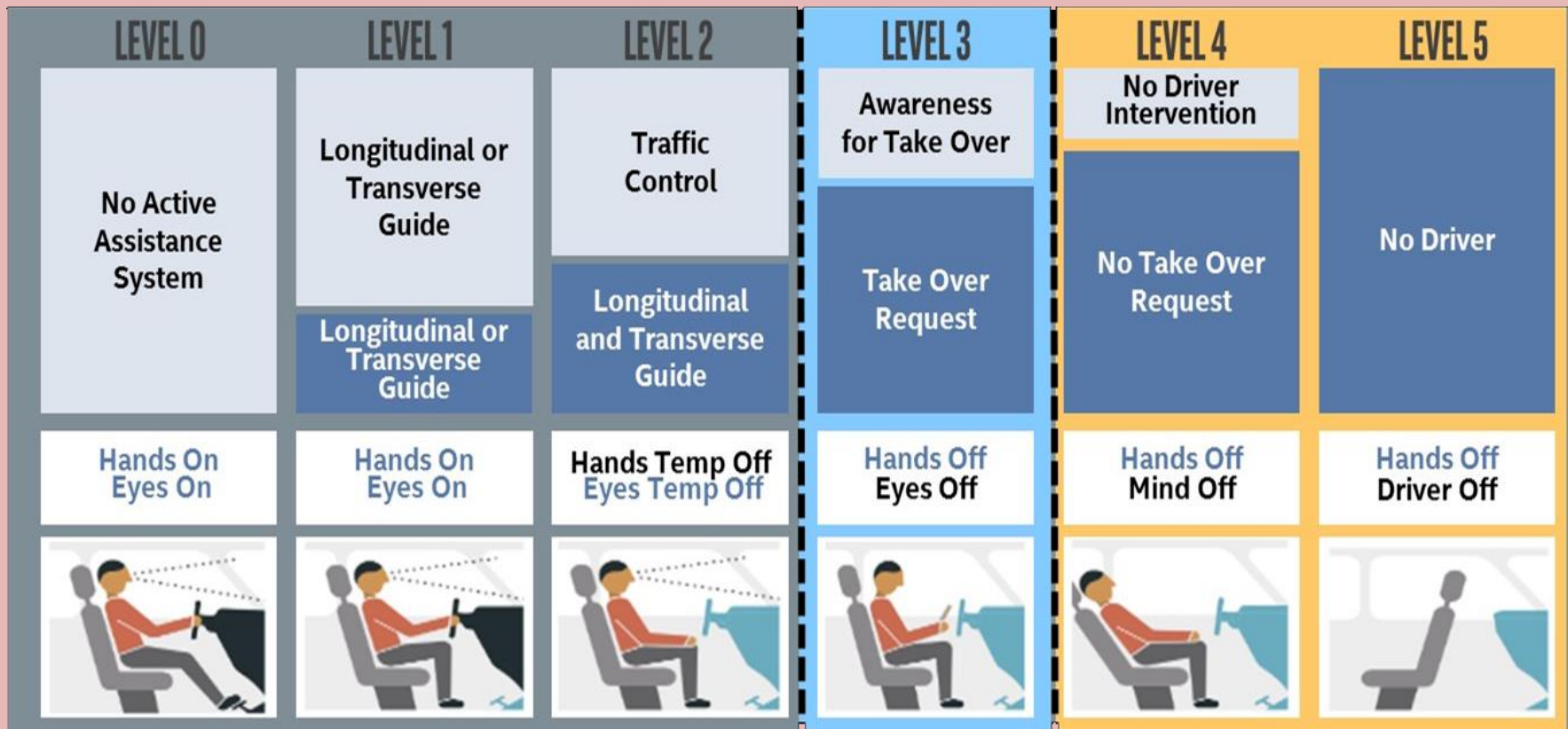
The Global Status Report released by WHO this year, confirms that road traffic injuries are still a big global health and development problem



The Investments

- Intel purchasing Mobileye for \$15.3billion
 - Dwarfs prior AV investments
 - MobilEye is at the component/system level, not the vehicle control level
- Ford purchases a majority share of Argo AI for \$1B
- Otto is purchased by Uber for \$680M
- GM purchased Cruise Automation for \$1B
 - after investing \$500M in Lyft
- Volkswagen invests \$300M in Gett (Uber rival)
- Apple pumps \$1B into DiDi
- nuTonomy closed on \$16M funding in 2016 and closing on "multiples of \$16M in 1H2017"
- Optimus Ride closed on \$5.25M funding

The Taxonomy

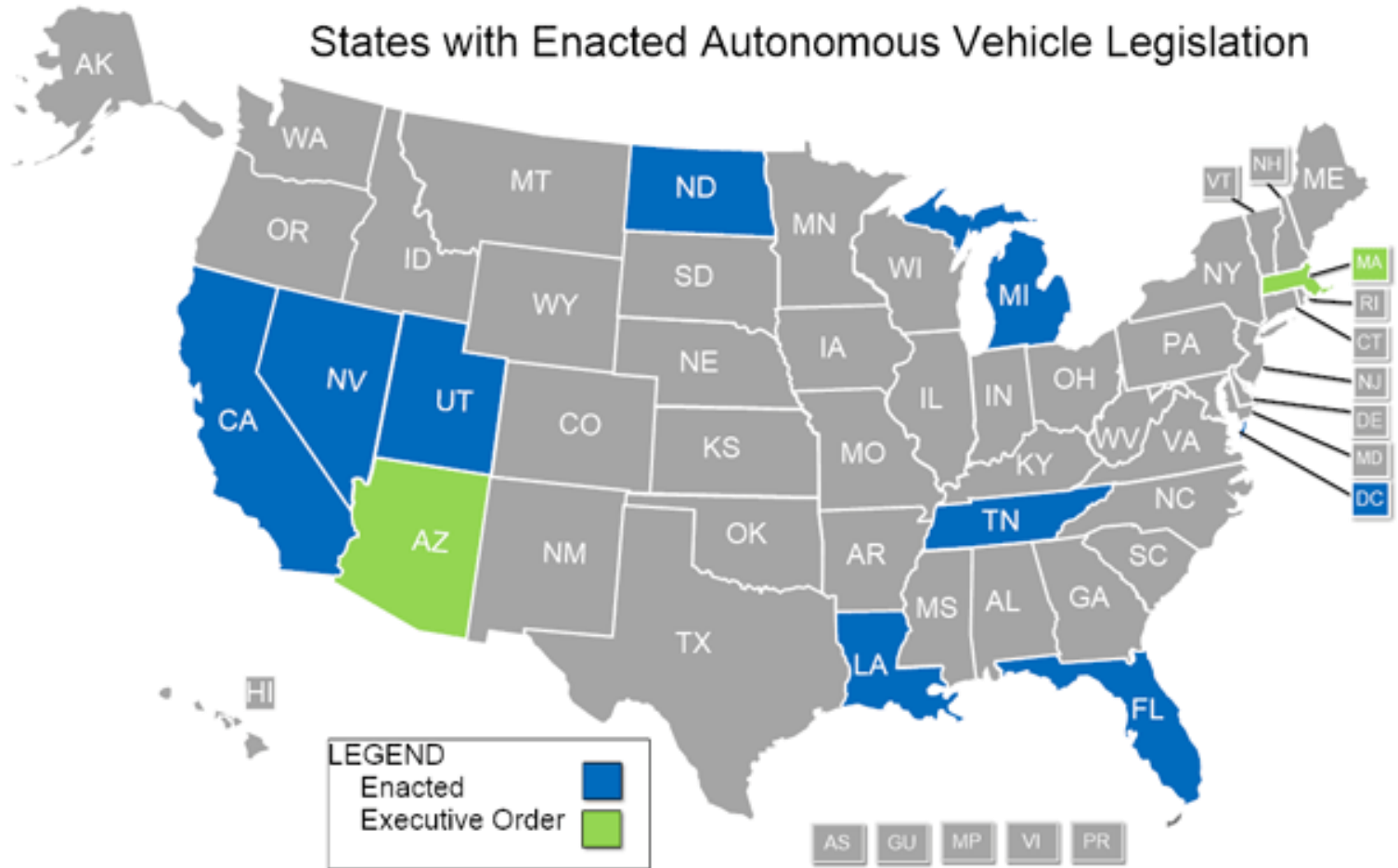


Testing in Massachusetts

- nuTonomy
 - Self-driving taxi cabs in Singapore
 - +200 miles in Ray Flynn Industrial Park
 - Renault Zoes and Mitsubishi i-MiEVs
 - Approval for expanded area
- Optimus Ride
 - Testing at Perkins School
 - Parallel autonomy & level 4
- Delphi - applied
- Navya - applied



Regulations



Data Sharing



Challenges to Adoption

- **Human behavior and local traffic idiosyncrasies**
- **Liability and auto insurance**
- **Varying business models**
- **Impact on state & local revenue**
- **VMTs – increasing or decreasing?**
- **Technology**
 - **Improved localization - centimeter accuracy**
 - **Disrupted GNSS positioning**
 - **Varying road conditions – not miles but experiences**
 - **...**