How to approach predictable complexity in automotive

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# The Changing Landscape of Automotive Design

- **Design Cycles: Upstarts vs. Incumbents**
  - Traditional design cycle: 5 years from concept to market
  - New industry leaders: Approaching 12-18 month design cycles
- **Architecture Evolution**
  - Transition to central/zonal is underway
  - Difference in design--150-200 ECUs vs six high-performance flexible processors

Sales SDVs Based on Domain E/E Architecture by Type of OEM

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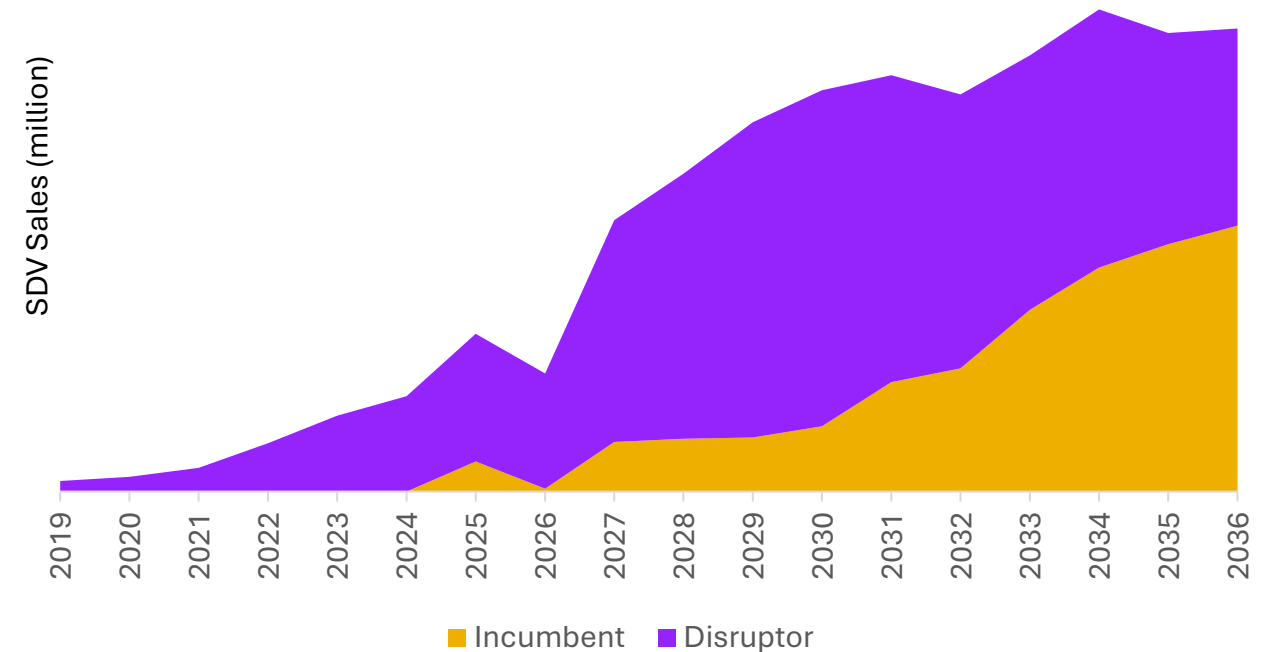
The data challenge

- **Exponential data growth**
  - Data generation is doubling rapidly with minimal analysis capability
  - Increasing sensor complexity: Visual radar, LIDAR, cameras
- **Vehicle Longevity**
  - Target lifespan extending to 20 years
  - Business model shift: From BOM (Bill of Materials) to TCO (Total Cost of Ownership)
- **The Processing Dilemma**
  - How do you select processors today that will remain viable in 15+ years?

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Integration

- Vehicles need increasing compute power

- Data scaling continues exponentially

- Cars must improve capabilities over their lifetime

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The path forward

- ***Get general and get flexible***
  - Everything should be capable of everything
  - You are not just centralising your compute, you are liberating it
  - Multidirectional, multistep offload
- Fix things with a tool
- Above all else—culture. Is your org chart up to the task?