How to (not) Fail at Hardware

Craig Smith

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How do you hack what you don't know?

But…

- I have never used X
- I do not know that industry
- I don’t know how that works
- I wouldn’t know where to start
- I’m sure others are more qualified

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The application stat

Women want to be 100% qualified

Men a comfortable if they are at least 60% qualified

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#1 Reason for Failure:

Scoping

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How did I get here?

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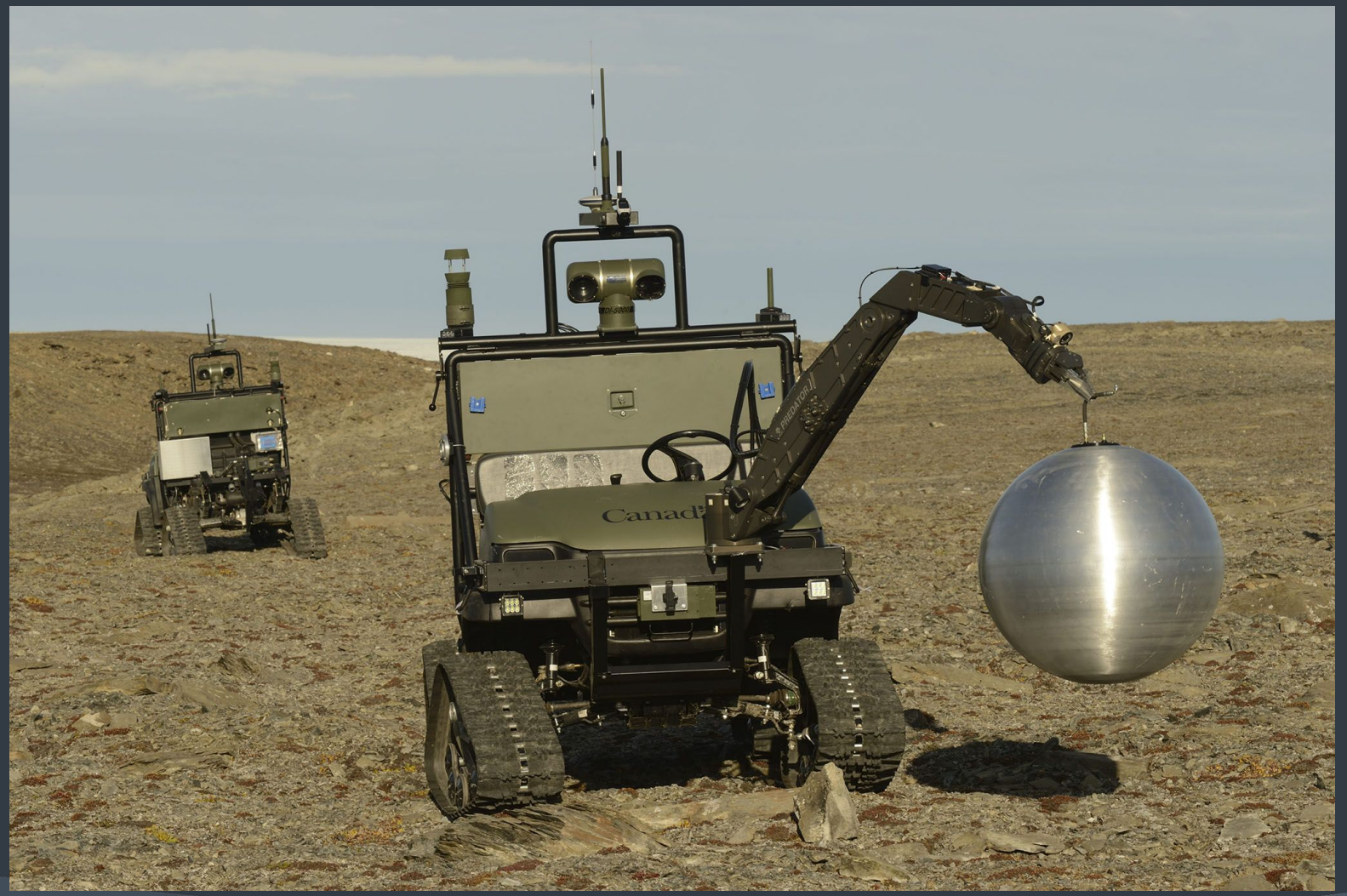
But why?



Navigation Systems

Black box

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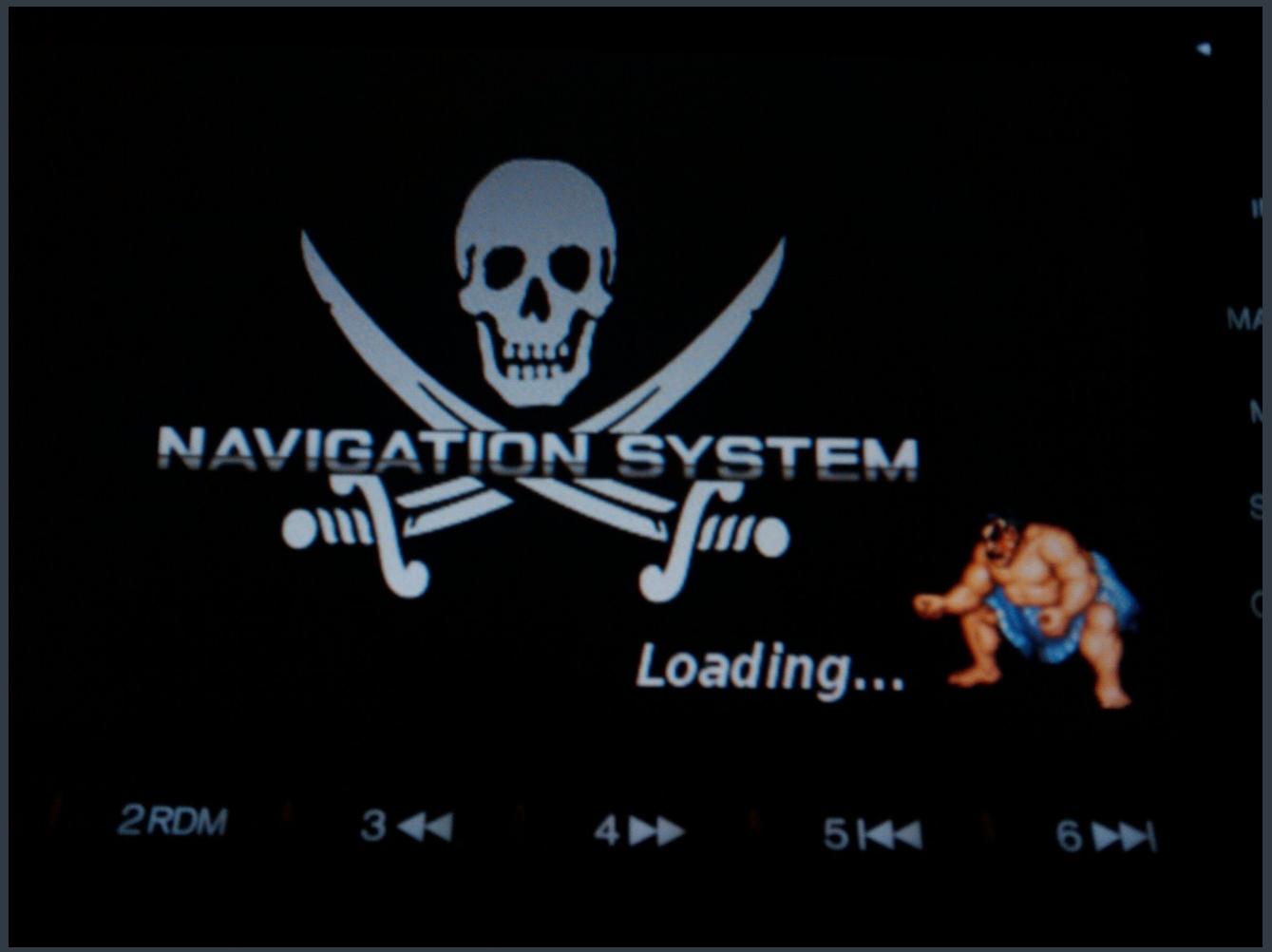
Success!



Welcome to the Auto Industry

Production Lifecycle

Time From Development To Production:

5 Years

Average Vehicle Age in the United States:

11.5 Years

Total Time Supported by the Manufacturer:

16.5 Years

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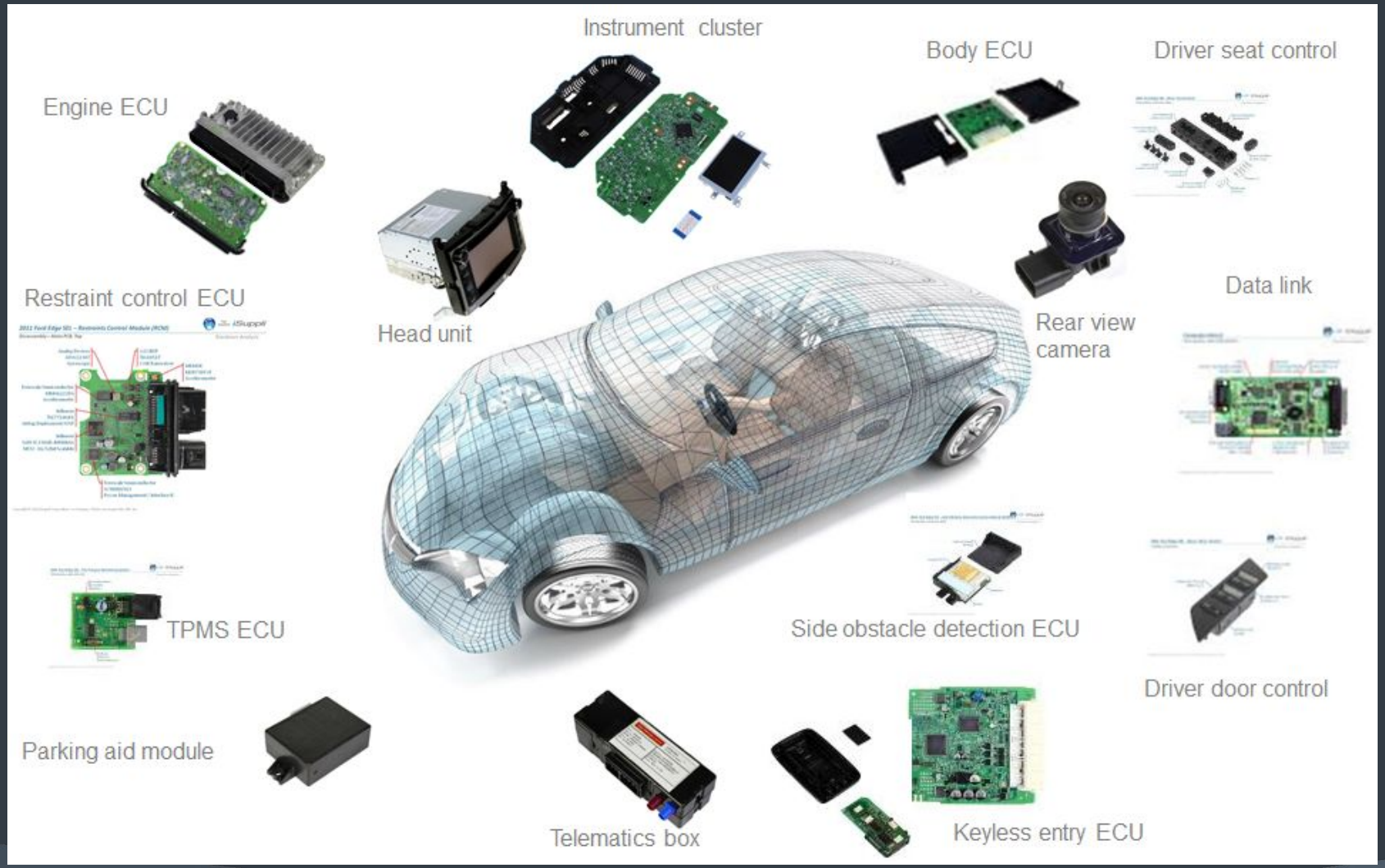
OEMs and Tier Suppliers



Functional Testing Environment

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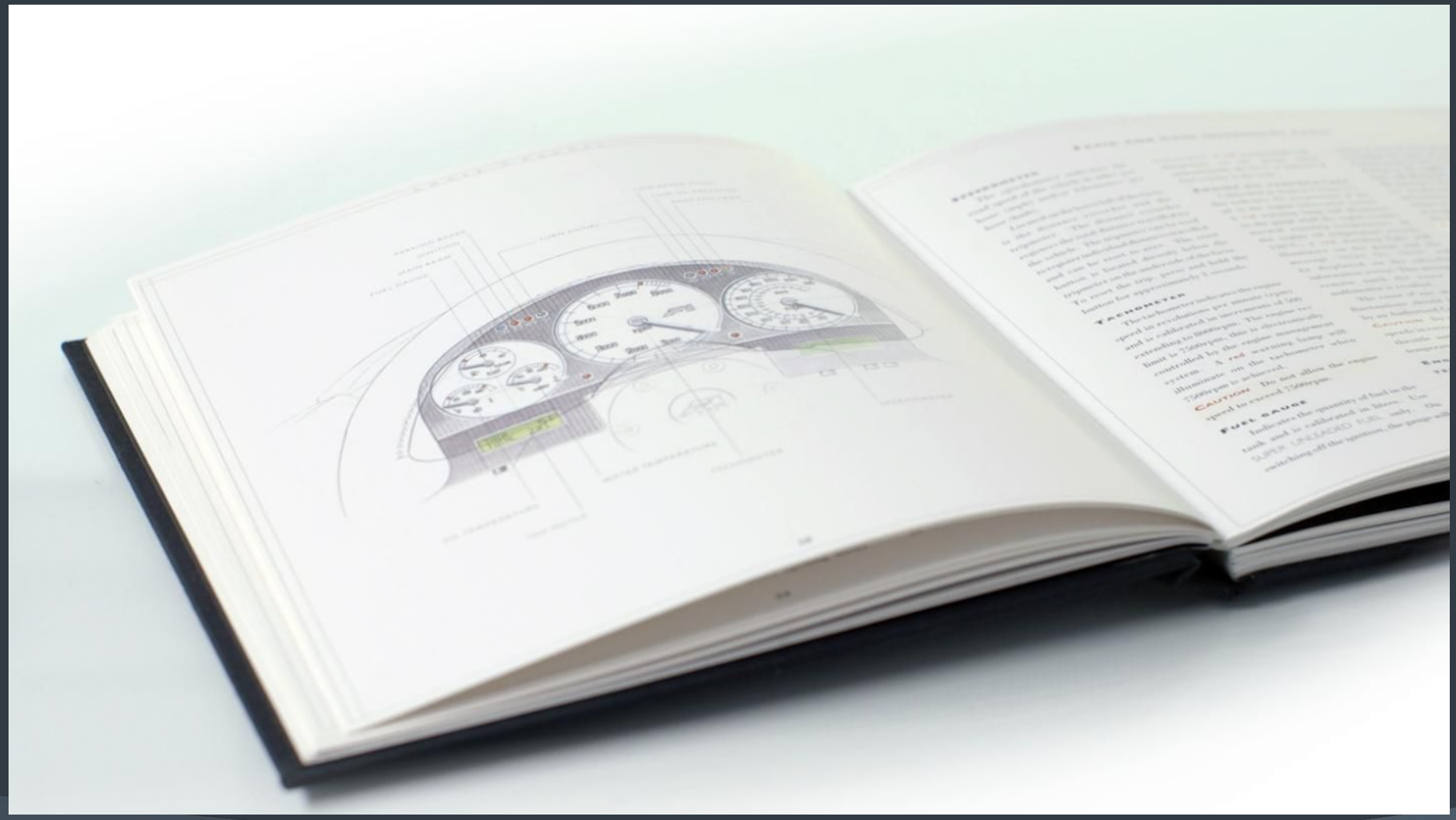
Prototypes & Scopes

Limit your scope

Blackbox == Reverse Engineering



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DRM Validation Testing

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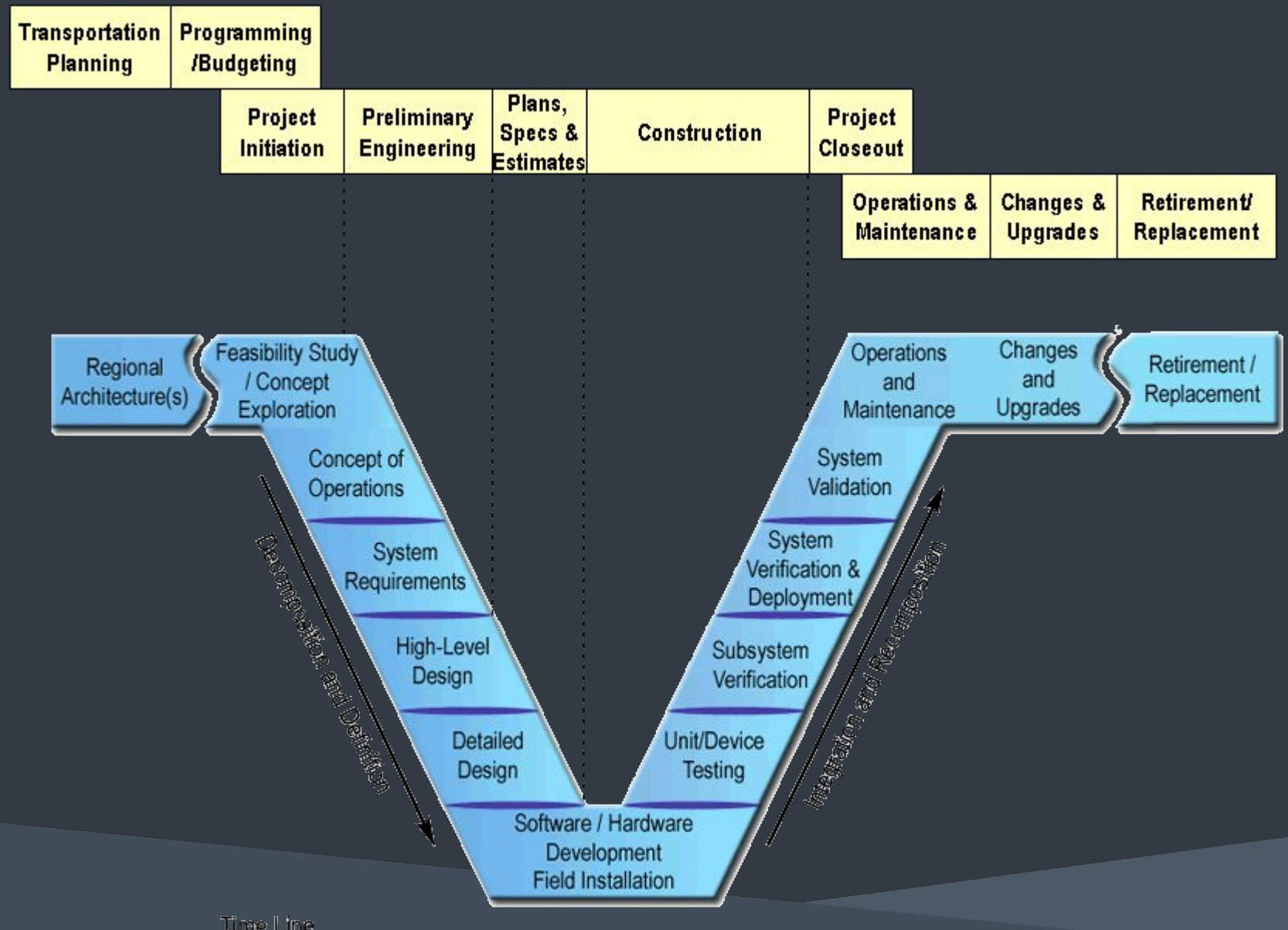
Current State of OEMs and Tier Suppliers

SHDLC?


Transportation Planning
Programming /Budgeting
Project Initiation
Preliminary Engineering
Plans, Specs & Estimates
Construction
Project Closeout
Operations & Maintenance
Changes & Upgrades
Retirement/ Replacement
Regional Architecture(s)
Feasibility Study / Concept Exploration
Concept of Operations
System Requirements
High-Level Design
Detailed Design
Software / Hardware Development
Field Installation
Decomposition and Definition
Integration and Recomposition
Unit/Device Testing
Subsystem Verification
System Verification & Deployment
System Validation
Operations and Maintenance
Changes and Upgrades
Retirement / Replacement
Time Line

Rules of Engagement

- Limit scope to targeted areas
- Work with tier/component manufacturers directly
- Ensure a proper testing environment
- Scope creep & liability
- Development Milestone reviews
- Blackbox == Reverse Engineering

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Target Success

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Discussion

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