



## A Healthier Software Development Life Cycle with DevOps

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# WHO WE ARE



37,000 Employees

£22.208 bln Revenue (2016)

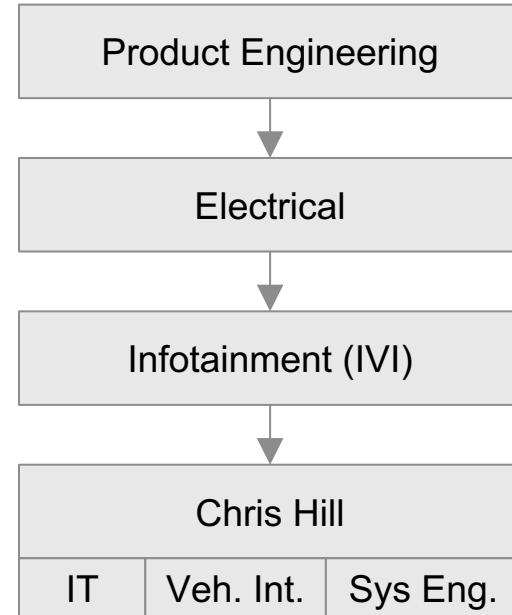
1800 Software Engineers

135 Software Organizations

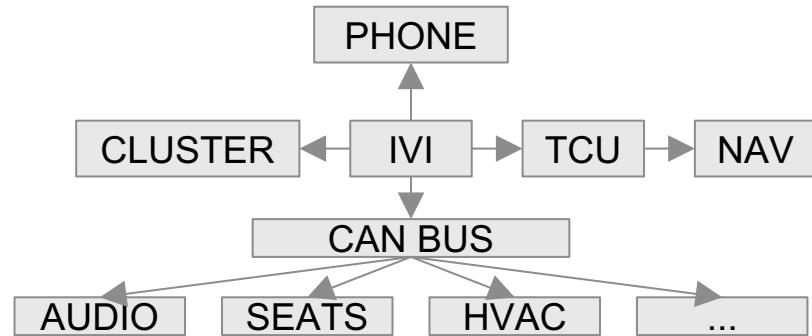
My recent move: Accelerate DevOps adoption

Portland - HMI Proof of Concepts

Gaydon - IVI Production



# A STORY ABOUT AN INFOTAINMENT SYSTEM (IVI)



“No one is doing this right”

# NOT DOING IT RIGHT

## INDICATORS OF AN UNHEALTHY SDLC



“Our devs build prod on their own machines.”

- No Continuous Integration
- Manual Testing **Only**
- Variability in deployments
- No automated control over deployment schedule
- Limited Reproducibility

“Oh that? We’ll fix it later.”

- Infrastructure is sometimes 2nd to product
- Technical debt accrual in smaller volumes
- Low chance of **actually** fixing it the right way



# NOT DOING IT RIGHT

## INDICATORS OF AN UNHEALTHY SDLC



“I approved my own pull request.”

- No accountability between developers
- Missing checks and balances / teaching
- Lower quality code bubbles to prod

“We didn’t have time to test”

- Pay for testing currencies: brand degradation, release delays, or upfront investment
- You can test without boiling the ocean.

“That’s the integration team’s job”

- Effort exists in silo-ed groups
- Rushed deliveries without testing
- No virtualization or simulation included with deliveries



# NOT DOING IT RIGHT

## IMPACT ON THE BUSINESS - CHANGE REQUIRED



### Impact to product

- Delayed or buggy releases
- Brand confidence decreases
- Outdated tech, customer disappointment
- Profits lost

### Impact to people

- No closure on work delivery
- Triage time increases
- Senior engineer turnover
- Technical debt accumulation

# WE ALL CAN DO IT RIGHT DEVOPS OR BUST

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- In order to remain competitive, we must adapt
- Break the pattern, be *strategically* disruptive - motion creates emotion

“It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change.”

-Charles Darwin



# WE ALL CAN DO IT RIGHT

## PRINCIPLES TO MAKING IT RIGHT - THIS YEAR!



Increase deployments per day per developer

- Automate at scale (build, test, deploy)
- Identify bottlenecks on iterations
- Find bugs earlier and automatically rather than long triage times

Remain agile in our development

- Promote self-service capabilities for devs
- Decrease barriers for change development

Collaborative agreements with partners  
Spread integration efforts across all teams  
Establish software contracts with high degree of trust with agility

- Work in-conjunction rather than divided parties



# WE ALL CAN DO IT RIGHT

## PRINCIPLES TO MAKING IT RIGHT - THIS YEAR!



### Decrease developer ramp up time

- Keep beginner complexity down
- More flexibility for sandbox experiments
- Can swap devs to keep things fresh

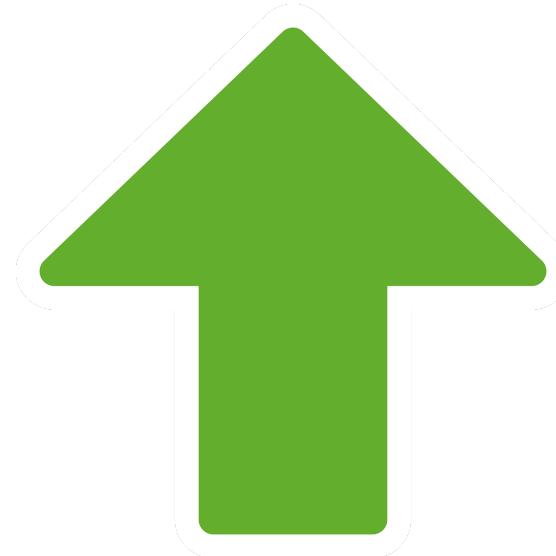
### Establish a dev community with transparency

- Create sarcasm-free help channels
- ChatOps enhanced operations
- Timestamps on tech discussions

# RESULTS SO FAR



- Build frequency increased by 200x.
  - 15 IRC users to 120
  - Prototypes can reach 5% representative of production in 1/20 the time.
  - 6 other software organizations adopted toolsets.
  - Increased developer happiness leading to better retention
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- **Biggest Surprise**
    - Most problems are not technical!



# STILL LOOKING FOR HELP



- We have more vehicle variants than grains of sand, which automated tests should run?
- Hardware simulation pre-silicon proactively.
- Systems engineering and infrastructure junkies people!





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# THANK YOU

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# BACKUP

