

curiosity



HUSTEF

HUNGARIAN SOFTWARE TESTING FORUM



George BLUNDELL

*"Complete" In-Sprint Testing Using
Collaborative Models*

1. The “combinatorial” explosion

Understanding the mountain to climb



Your test code is great. Scaling is the challenge.



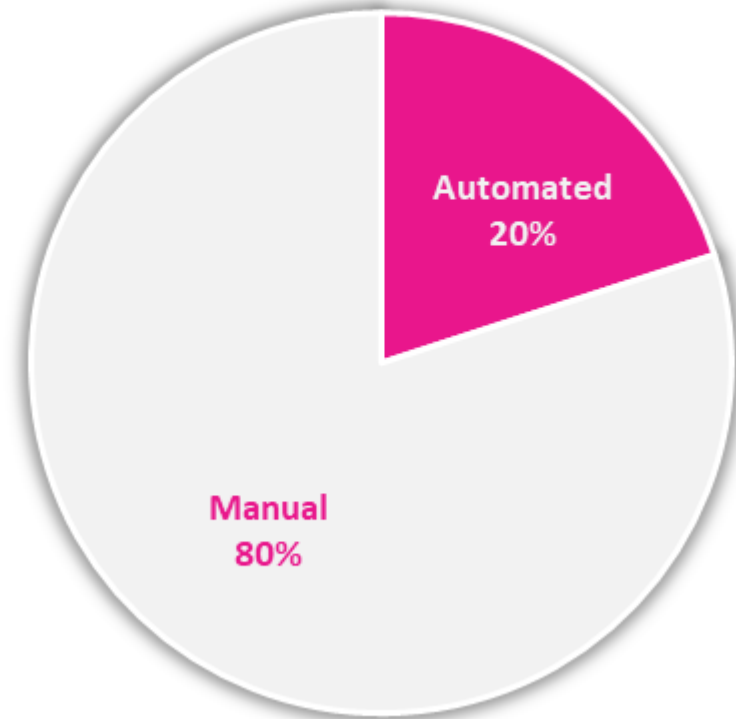
“an average of between 15% and 20% of tests being automated”

“Regression testing appears within this 15% - 20% band”

Capgemini, Sogeti (2022), The World Quality Report 2021-22, P. 23.

Retrieved from <https://www.capgemini.com/insights/research-library/world-quality-report-wqr-2021-22/> on December 12th 2022.

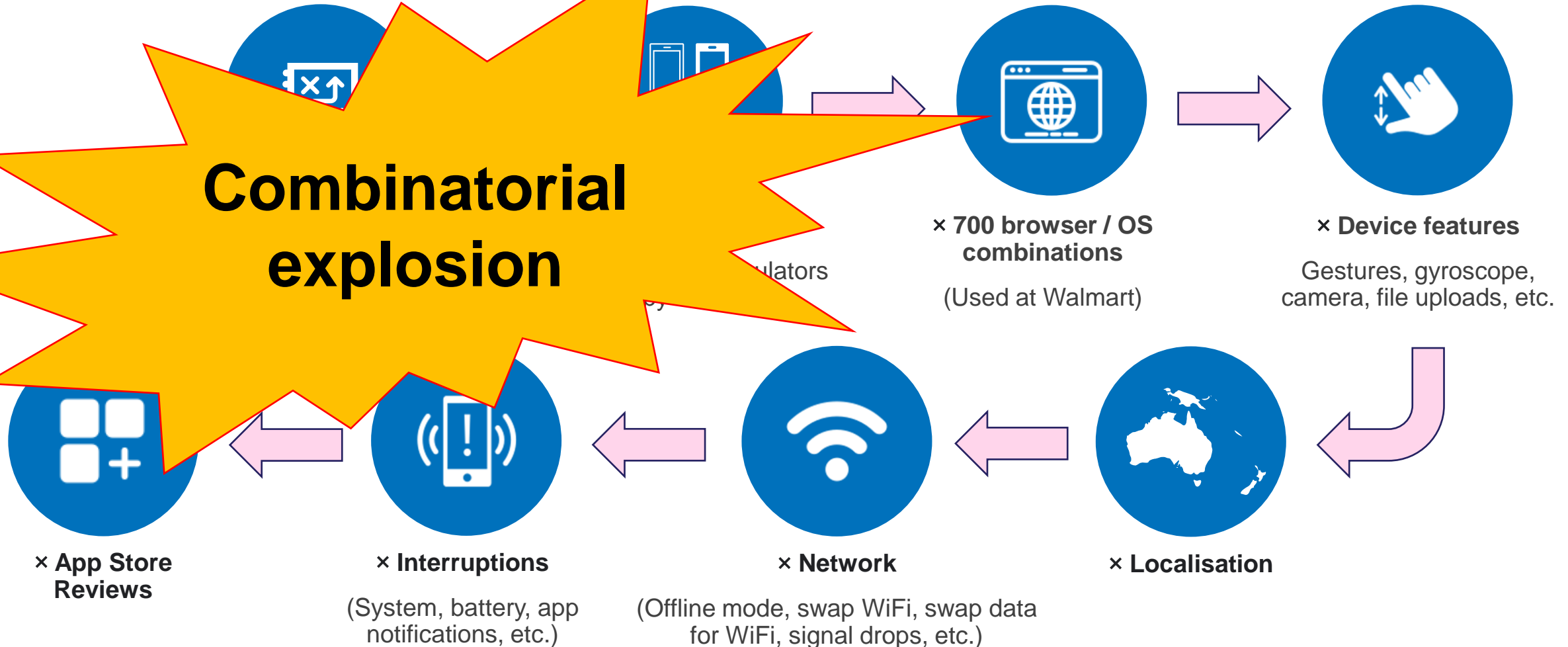
Tests automated in 2021-22



There's more than we can script



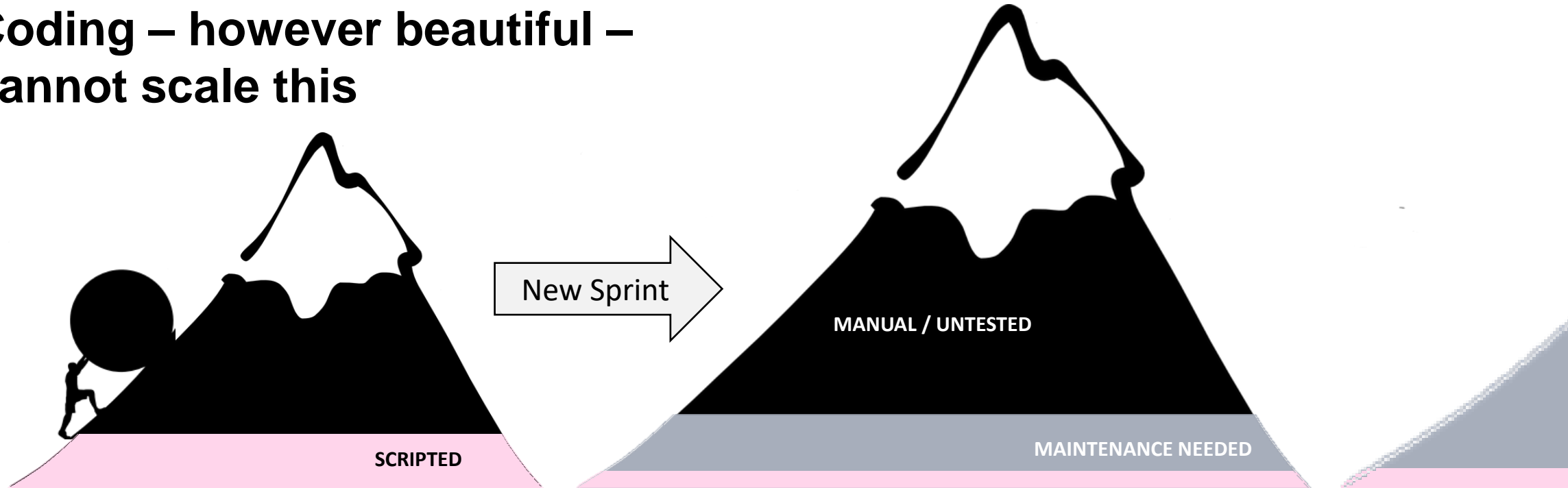
Combinatorial explosion



How many skilled SDETs would you need?



Coding – however beautiful – cannot scale this

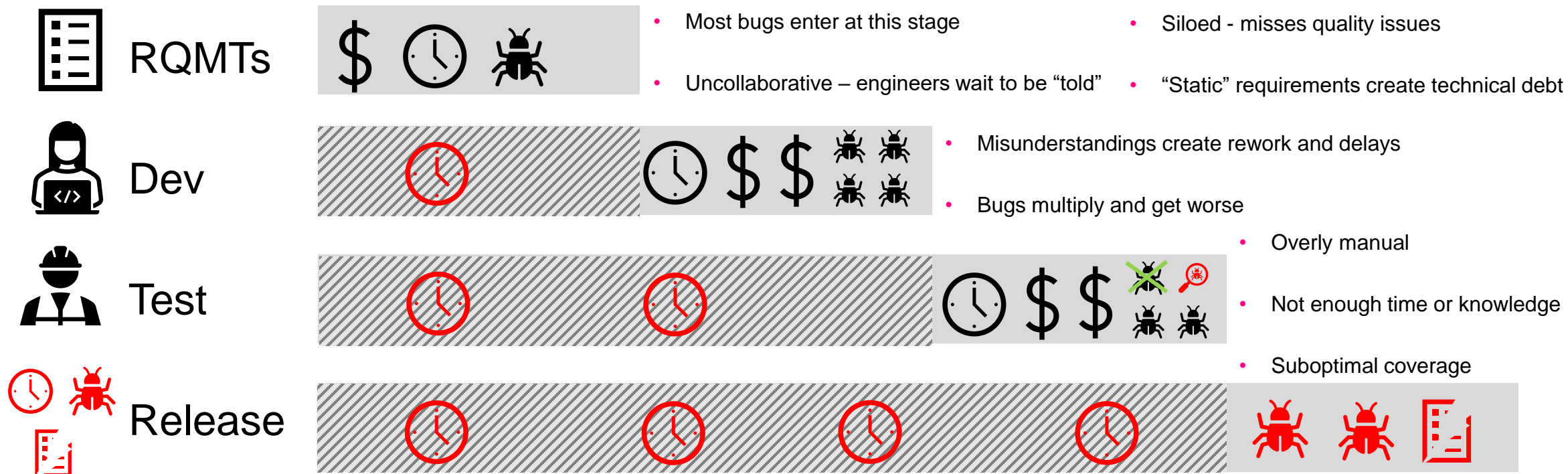


You need help from your “three amigos”. Automation needs componentisation, reusability, and automated combinatorics.



The “Mini-Fall” pushes everything later

A 2-week iteration:



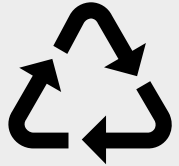
← **Late feedback**

- Drift from the requirements - but no time to fix it
- Bugs found late are too hard to fix in time

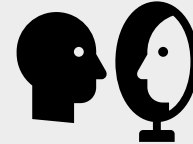


2. Model-Based Testing Using Collaborative Modelling to Scale Automation

Model-Based Testing lets you:



Reuse automation code



Create a 1:1 mapping Automation and component



Autogenerate test scripts in one go



Collaboratively maintain models & update tests



Optimise coverage to target changes



Offload complexity & repetition to automation



Demo

TestModeller (Model: EndToEnd Flow - Version: 1 - LATEST VERSION) Freestyle

File Home Connectors Test Data & Automation Test Generation Comments

Version History Paste Copy Delete Re-Layout Select All Flow Align Validate Links A Default I B U T

File Clipboard Editing Model Details Font

Actions

- Start
- End
- Waypoint
- Task

Test Data Actions

Model Properties

Overview

```
graph LR; Start((Start)) --> Login[OrangeHRM - Login Step]; Login --> Edit[OrangeHRM Edit Employee - v(1)]; Login --> Reg[OrangeHRM - Registration Step]; Edit --> Final[OrangeHRM - Final Step]; Reg --> Final; Final --> End((End));
```

Cypress v1.0 Scenarios

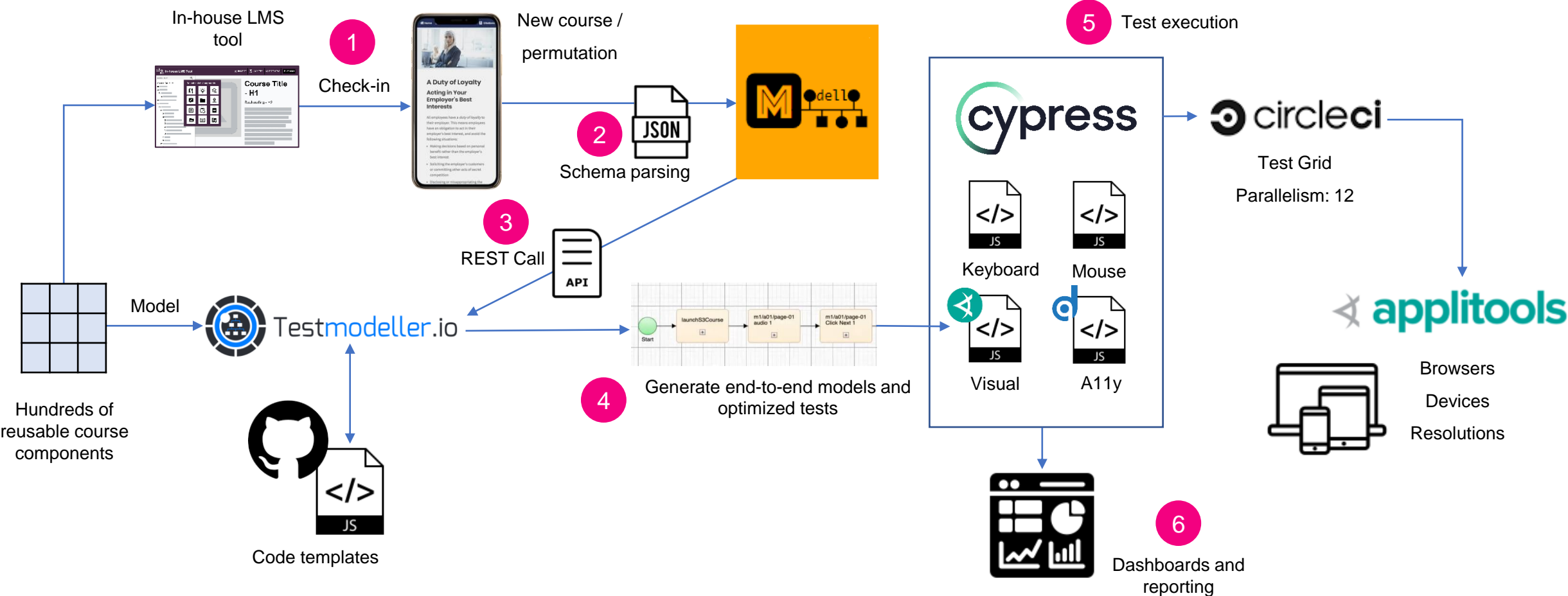
?

3. Routes into Modelling



An advanced application

EVERFI®
from Blackbaud



But how can an organisation get started?

- An example from a SAFe team -



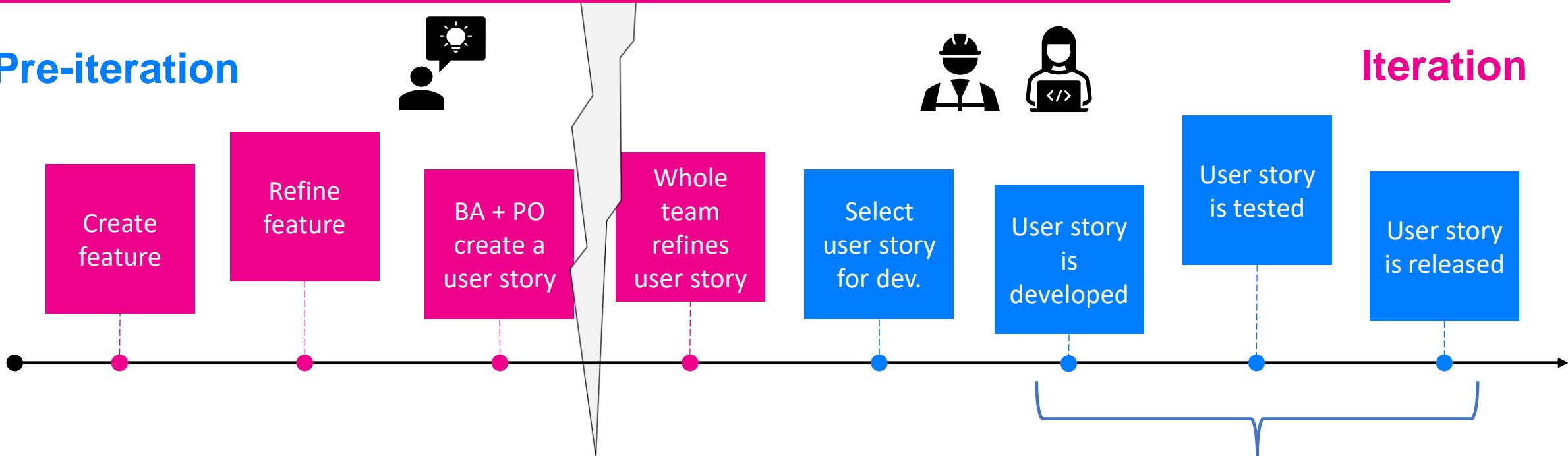
Reverse-engineer (scan) existing systems



Pre-iteration



Iteration



Starts relatively “late” and is used to build tests and automation quickly for developed systems.

Tests are linked/exported to user stories.

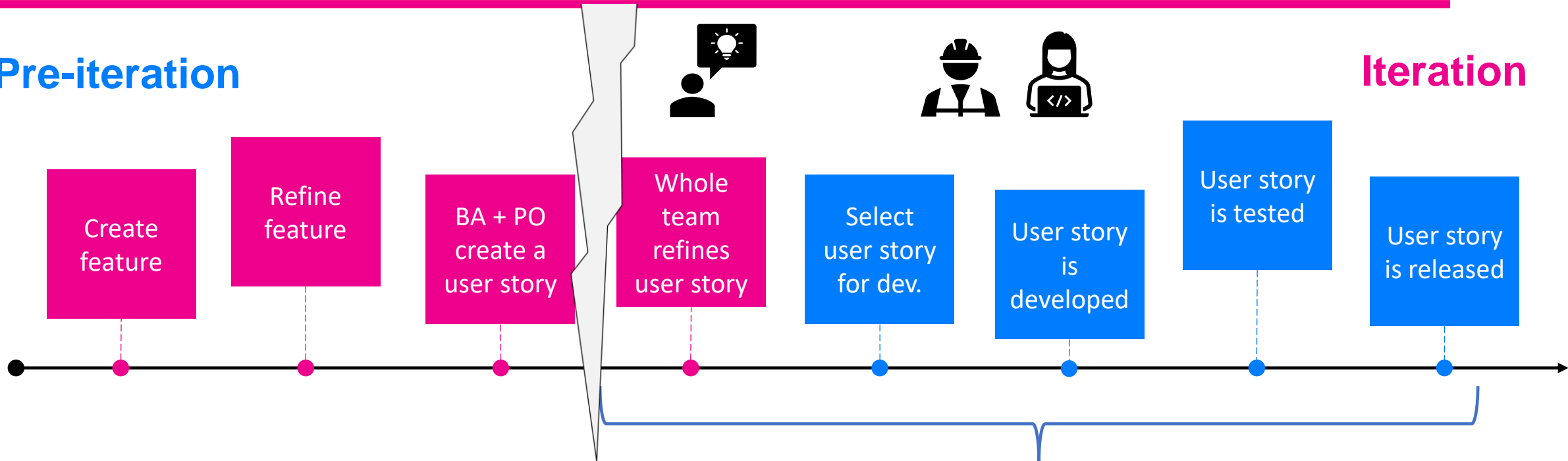


Model and refine BA/POs user stories/requirements

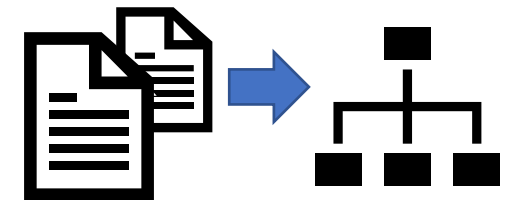


Pre-iteration

Iteration



Starts once stories have been created. Linked stories, tests and models are maintained from the models after that.

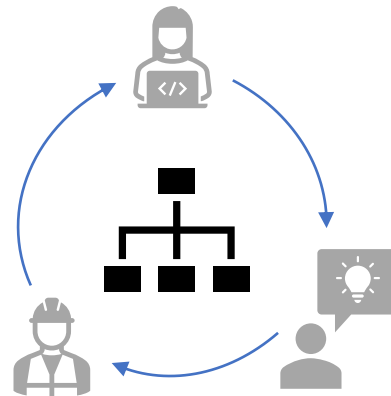
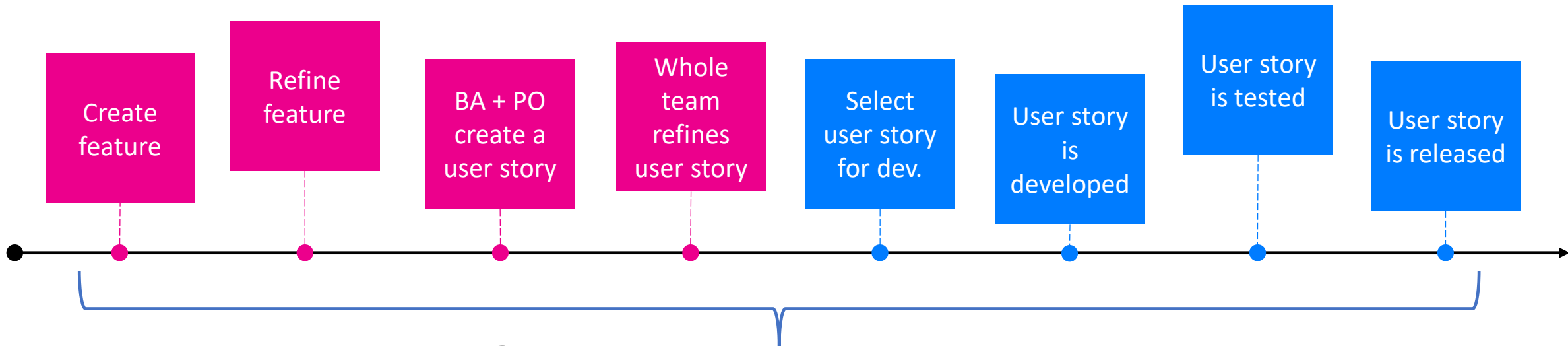


Stories

Tests

Models

Models *as* requirements



Models serve as (test-driven) requirements

A proposed adoption roadmap

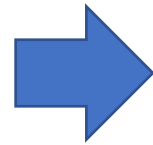
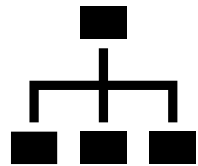


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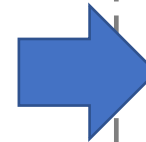
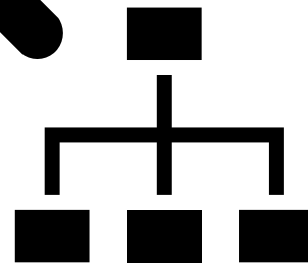
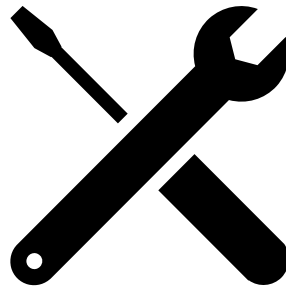
Scanner



Importers

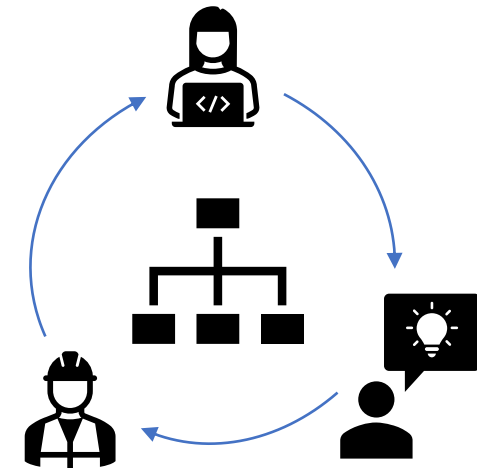


Refinement



Model in the middle

2



Transition to modelling upfront and exporting tests/requirements out

Get started quickly using accelerators to model

Gain modelling skills by editing/augmenting flows

Questions and Discussion



Next Steps



- Check us out @ CuriositySoftware.ie
- You can find me on LinkedIn @ [George Blundell](#)
- Let's continue the conversation.. email us **George.Blundell@Curiosity.Software**
- I'll be around during and after the event if you want to say hello! 😊



