

# Test Data Factory

Taking full control over test data on a legacy system

*Gerwin Jonker*  
*Stater*

**TESTWORKS '16 CONF**

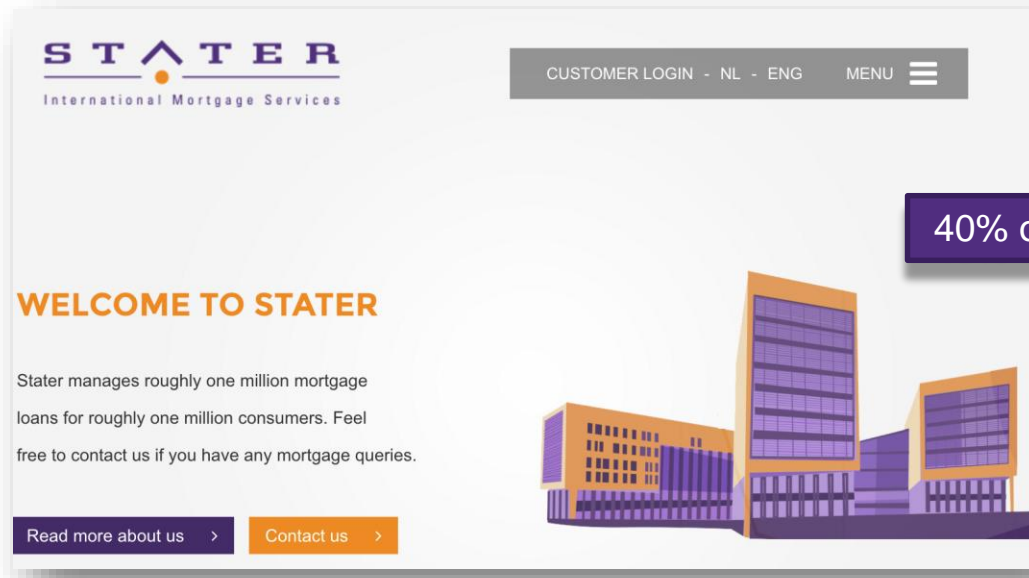
## Contents

- Who is Stater?
- The challenge: test data on a legacy system
- Test Data Factory
- Examples
- Wrap up

Mortgage service provider

Over 1 million mortgages

30+ clients



40% of all Dutch mortgages

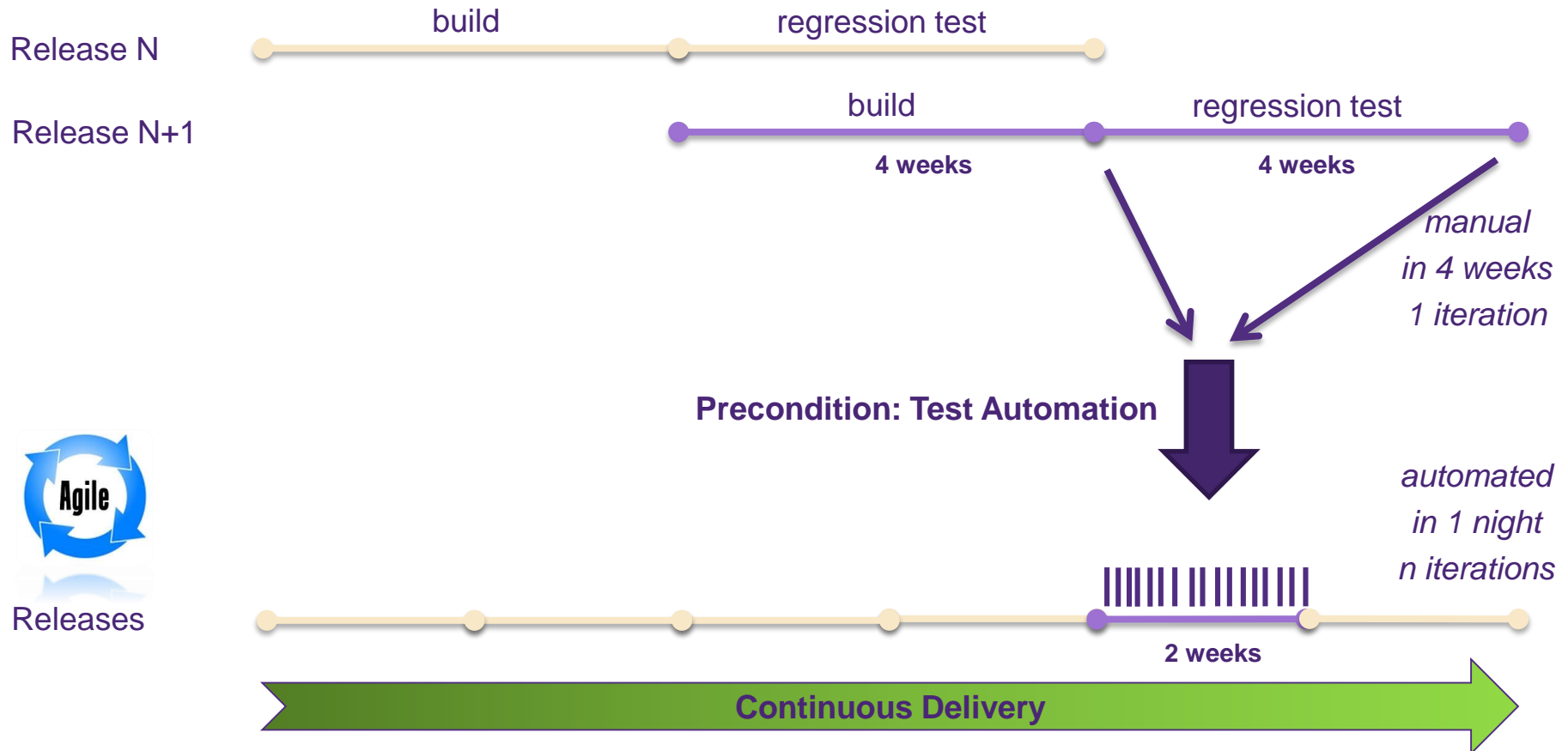
400 IT-professionals

Mid Office

1.400 FTE

Back Office

# Shortening release cycle



Releases

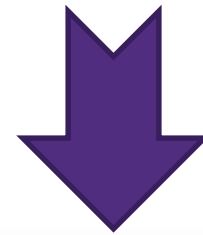
## Current manual regression test

- Chains
- Batch calendar
- Copy production data
- Finding correct mortgage loan



## Issues for automation

- Duration
- No predictable tests
- No repeatable test



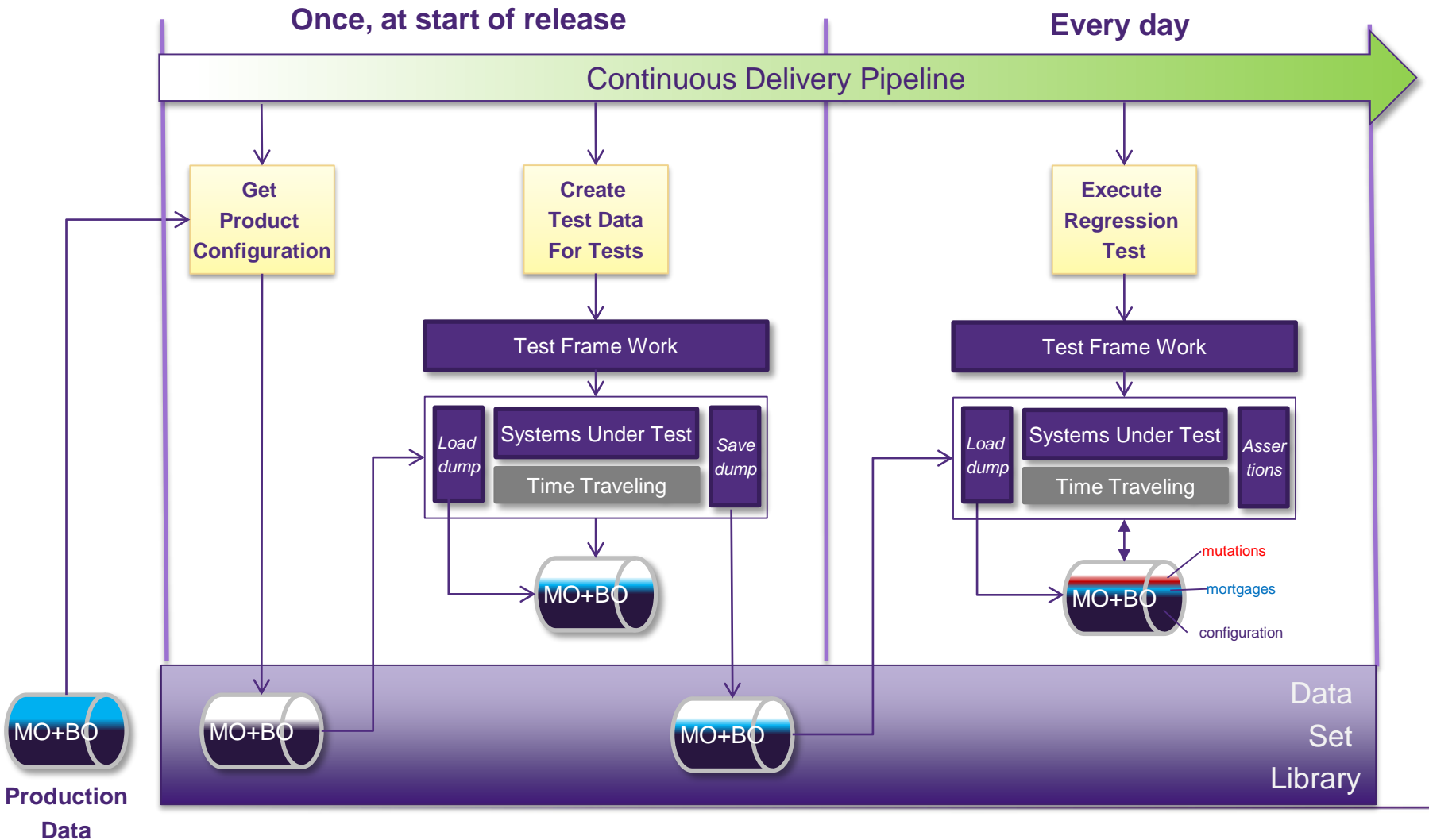
**DIY**

## The challenge: creating test data

- Create test data via SQL-insertion
- Back Office system: legacy characteristics
  - Database model
  - Reverse engineering
  - To costly
- No option...
- What else?



# Test Data Factory – The Concept





# Example: Creating Test Data – FitNesse

The screenshot shows the FitNesse web interface with the following sections:

- Voer nieuwe lening op tot en met beheer**: A section with a button labeled "+ Voer lening op".
- Draai 1 volledige maandcyclus**: A section titled "Draai 1 volledige maandcyclus" containing a table for "Uitvoeren tijdreisacties".
 

straat	van huidige fase	naar fase	maand doordraaien	goed uitgevoerd?
ST	\$maandfaseST	1	true	true
- Bewaar datasets**: A section titled "Bewaar datasets" containing two tables.
 

dumpnaam	unieke dumpnaam?
LeningInBeheer	\$dumpnaam2=

straat	dumpnaam	ok?
ST	\$dumpnaam2	true
MO	\$dumpnaam2	true
- Registreer leningen in loanfile**: A section titled "Registreer leningen in loanfile" containing a table for "ddt: Registreer Lening".
 

precondition	straat	geldgever	persona	leningnr	bo	mo
LeningInBeheerInEersteTermijn	ST	DL	John en Anita	\$stdljohnanita	\$dumpnaam2	\$dumpnaam2
LeningInBeheerInEersteTermijn	ST	DL	Jan en Jannie	\$stdljanjannie	\$dumpnaam2	\$dumpnaam2

Creating new mortgage from scratch

Run monthly batch on 1 mortgage

Save dumps library

# Example: Test Using Created Test Data – FitNesse

FitNesse Test Edit Add Tools Search for page

FrontPage / StaterRegressieSuite / KernProcessen / BehandelenLeningenPolissenZekerheden / BehandelenAchterstanden / ActiefBehandelenAchterstanden / MaatregelOverdragenAanGeldgeverIsGenomen ART-290 regressietest\_tdf

### Specificatie

**Gegeven** een lening in beheer met achterstand voor Persona John en Anita en Geldgever Delta Lloyd en ABA taak 653 staat  
**Wanneer** medewerker debiteuren taak ABA-653 opent en een maatregel "Dossier overdracht naar GG" kiest.  
**Dan** in scherm Statusverloop verschijnt Status "Behandeld buiten Stater".

### Gebruik TDF lening

ddt: Verkrijg Lening

precondition	straat	geldgever	persona	leningnr?	bo?	mo?
LeningInBeheerInEersteTermijn	ST	DL	John en Anita	\$stdljohnanita=	\$dumpnaam1=	\$dumpnaam1=

### Laad Data Sets

Laad Tdf dump

straat	dumpnaam	ok?
ST	\$dumpnaam1	true

### Test

Maatregel Dossier Overdracht Naar GG

Straat	Geldgever	Persona	Lening Nummer	Is Maatregel Dossier overdracht naar GG Genomen?
ST	DL	John en Anita	\$stdljohnanita	Ja

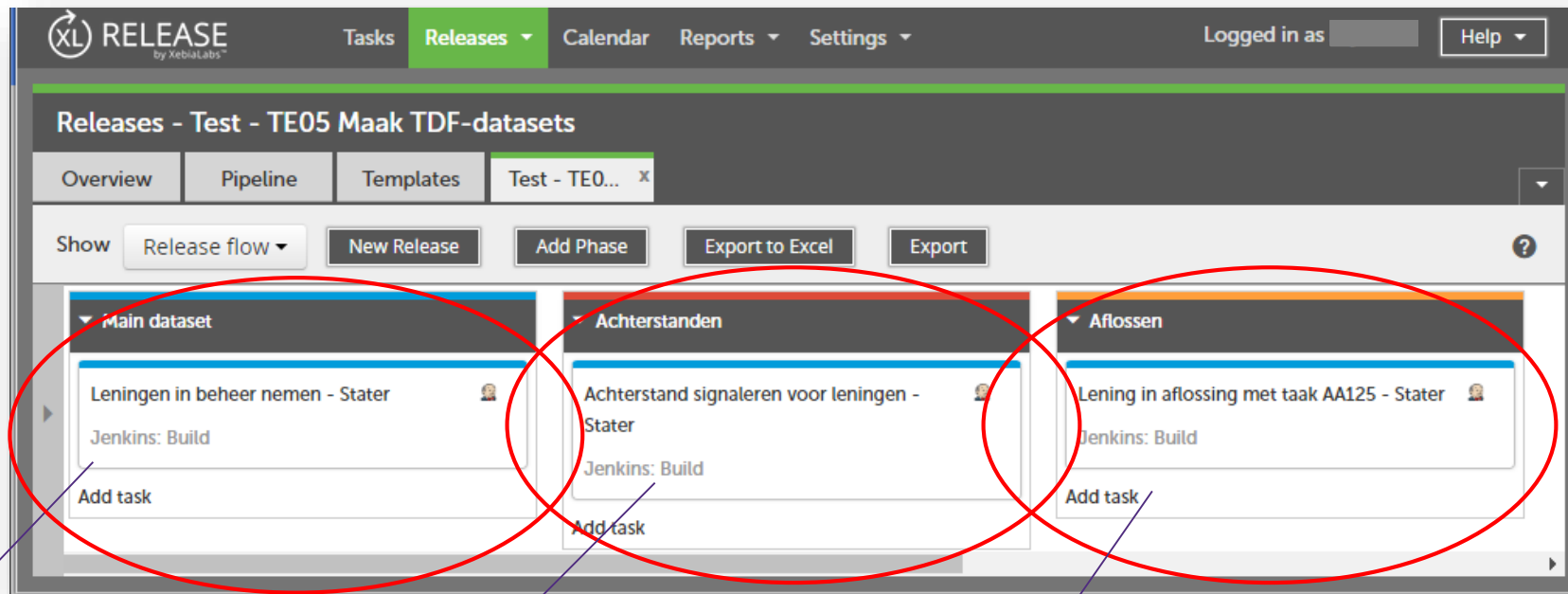
Test Specification

Load right dumps

Execute test

# Example: Pipeline for Creating Test Data – XL Release

- 3 different data sets -> 75 test situations



## Create mortgages from scratch:

- Start with dump with only product config
- Create mortgages / run batches
- Save dump in data set library

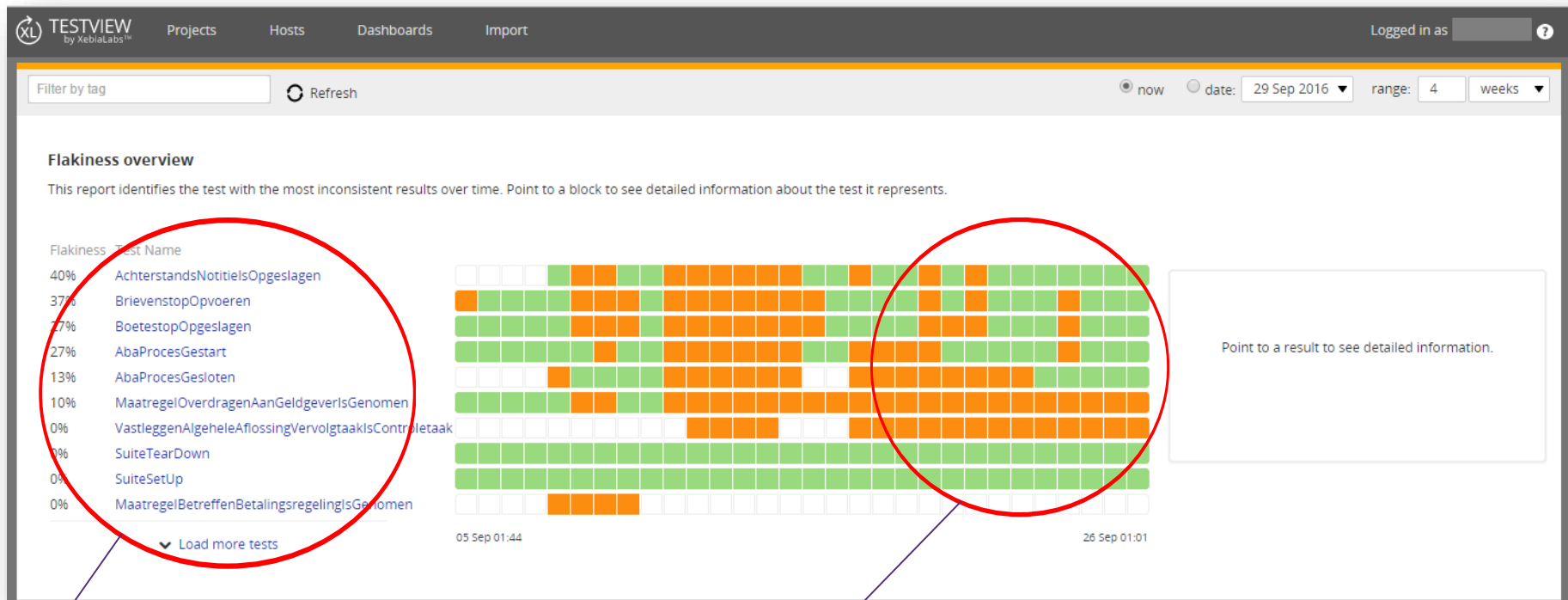
## Modify mortgages from main dataset:

- Load dump from Main dataset
- Modify mortgages / run batches
- Save dump in data set library

## Modify mortgages from main dataset:

- Load dump from Main dataset
- Modify mortgages / run batches
- Save dump in data set library

# Proving the pudding: Flakiness Report – XL TestView

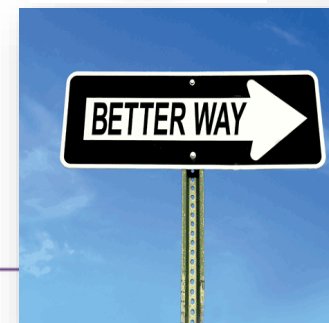


Repeatable tests on legacy system

Predictive results

## Wrap up

- Is the Test Data Factory the best solution?
  - No: for the long term.
    - Maintenance costs are high
    - Execution time high / no quick feedback
    - Testing high in the testing pyramid (less efficient and effective)
  - Yes: for now.
    - Due to legacy character there is no better solution
    - It enables automated regression tests
    - It enables Stater to shorten the release cycle from 2 months to 2 weeks
    - It enables the customers to shorten time-to-market
  - Future:
    - Renewing IT-architecture with testability in mind:
      - Enabling testing smaller functions
      - Enabling injecting test data



## Questions?

