

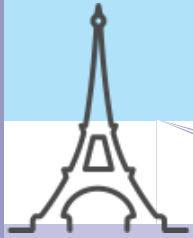


How To Test A LED-Bar Longer Than The Eiffel Tower?



November 14th 2018

spoor
1





Ard Kramer



Dennis Schouten

NS (dutch railways) in figures

Station Schiphol Airport

80.000 passengers every day

4th train station the Netherlands

Busiest track of Europe

1.2 million tra
day

Central:
ers per day

6,830 km of tra
Utrecht to

9,000 track

EU
2.



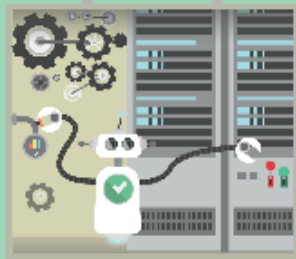
Test Competence Center

We love Development

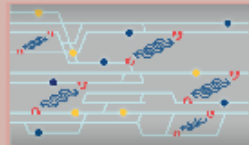
Testautomatisering



CI/CD Pipeline



Ketens testen



Security testen



Testdata management



Academy



Utrecht Centraal

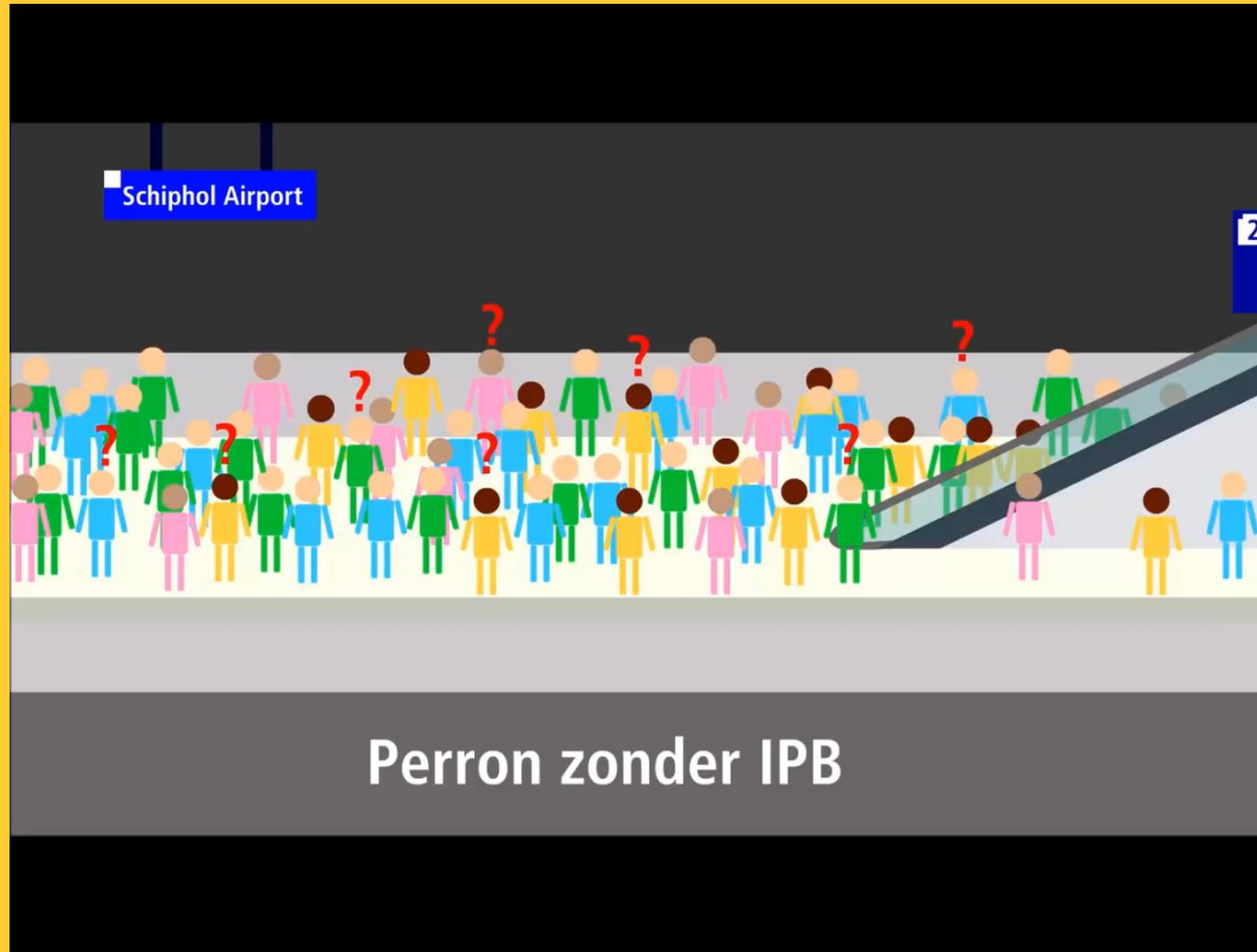
kiosk



Some context

Why?

Station Schiphol Airport



The solution

What

Station Schiphol Airport

IPB



FIRST OUT  THEN IN

FIRST OUT  THEN IN





The challenges

How

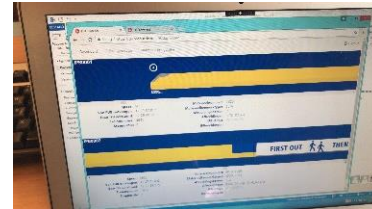
We present you the (test) challenge



Define a Minimal Viable Product



A product never build before



How to test?

Conclusion



Define

MVP

Station Schiphol Airport

How we defined the MVP?



- Proven products

A never build product

Never build?

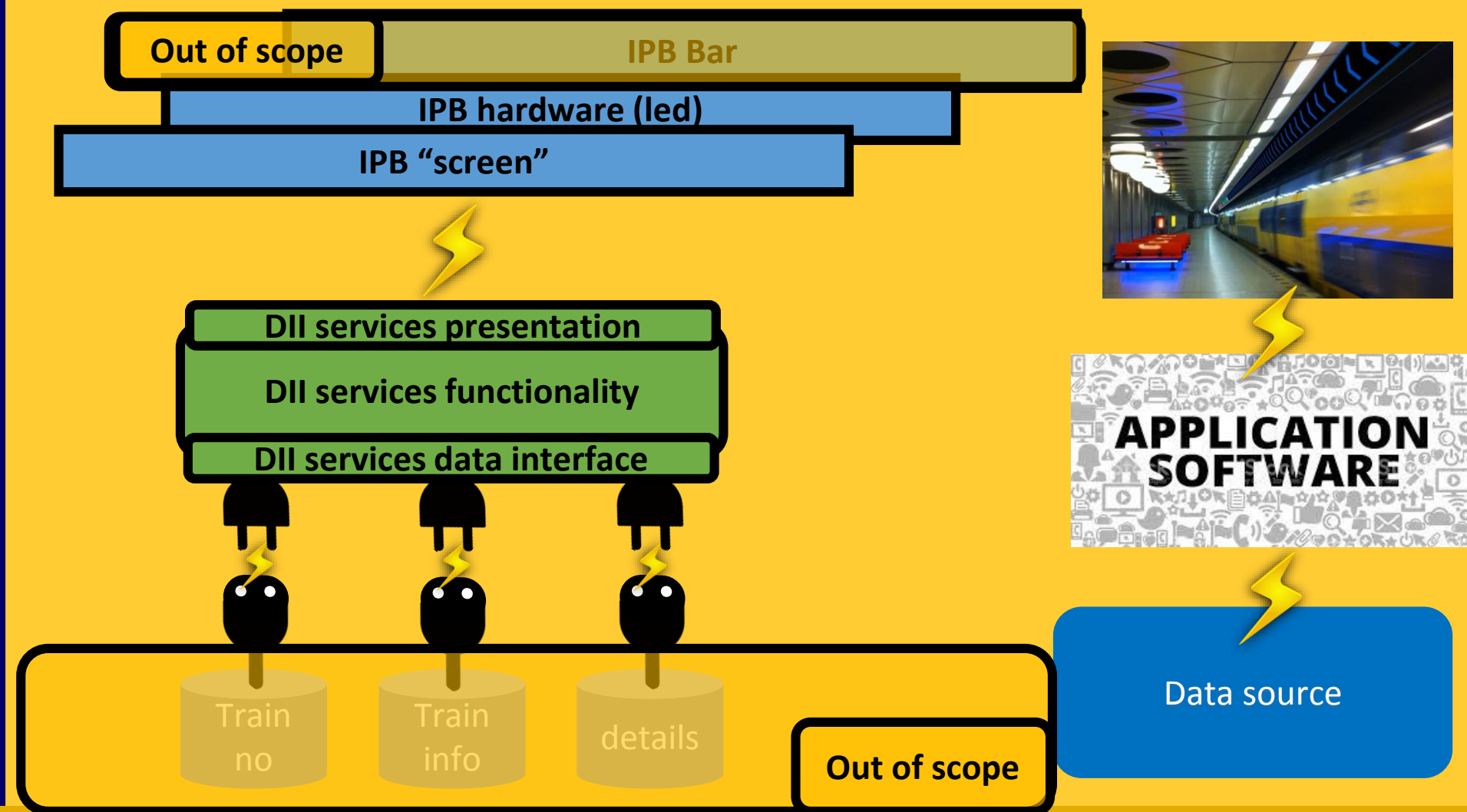
- **Length**
- **LED in architecture**
- **Live feed**

Station Schiphol Airport



Project challenges

Station Schiphol Airport: architectuur

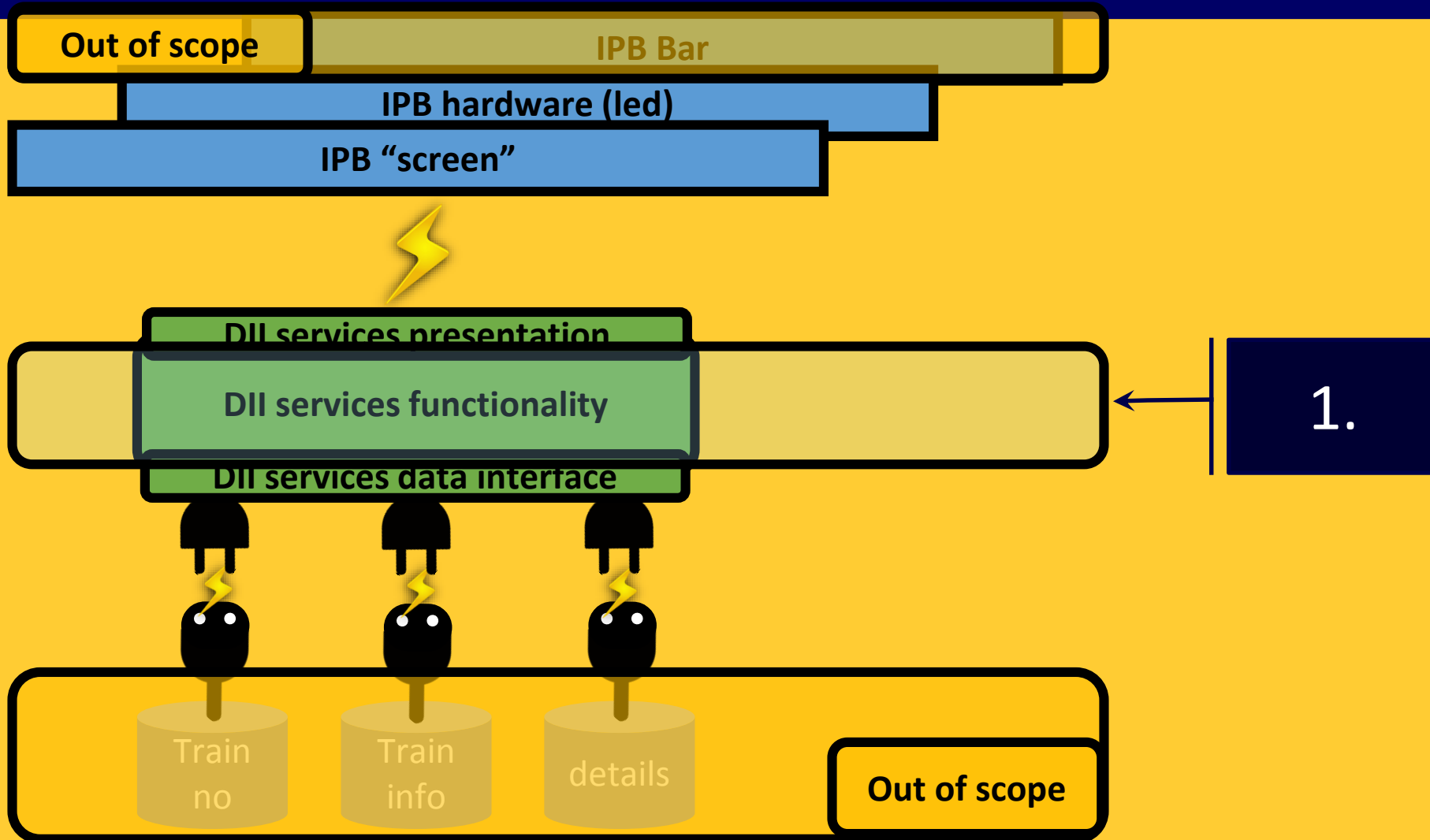


How to test?

Station Schiphol Airport: planning

- **Availability Schiphol**
- **Development / delivery bar**
- **Tuning source data**

Station Schiphol Airport: Test steps





Station Schiphol Airport

Apps NU - Het laatste nie DiiFrontend product: DiiFrontend accepta: DiiFrontend acc met: Actuele Vertrektijden Startpagina van Mic System Dashboard Supplementary Spec


Apowersoft Screen Recorder Pro - This is a trial version Logout

PB0001 8

  **To the train** 1032px 2052px

Spoor: SHL1	Materieelnummers: 4038, 4223
Van PUB ontvangen: 15:34:01.745	Materieelkenmerktypes: ICM3, ICM4
Naar IPB verstuurd: 15:34:09.511	Afbeeldingssoorten: 2, 2
Treinnummer: 1855	Afbeeldingen: ICM3_02.png, ICM4_02.png
Stoppositie: 7	IPB-status: VERBONDEN
	IPB-meldingen:

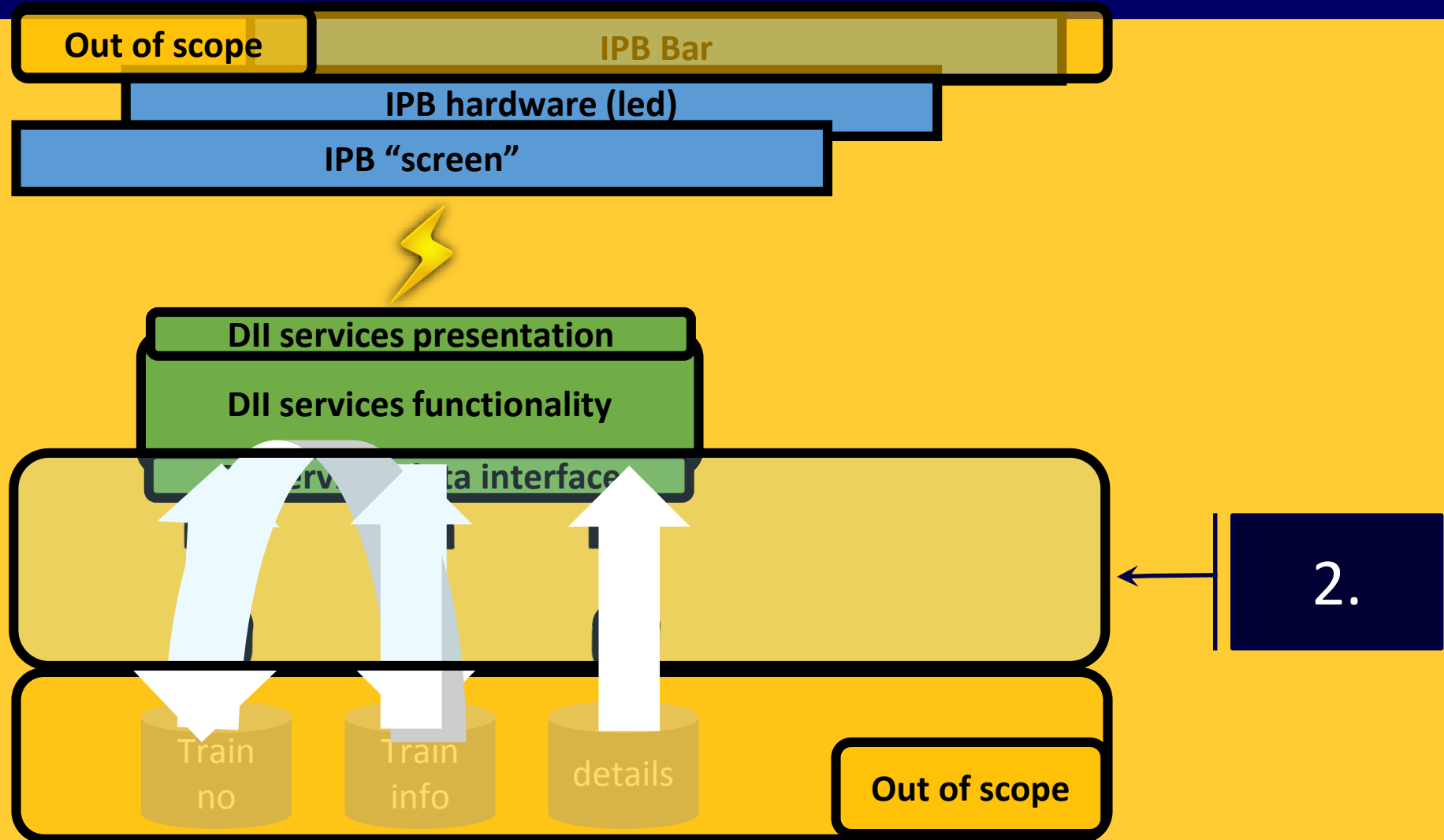
PB0002

2 **FIRST OUT**  **THEN IN**

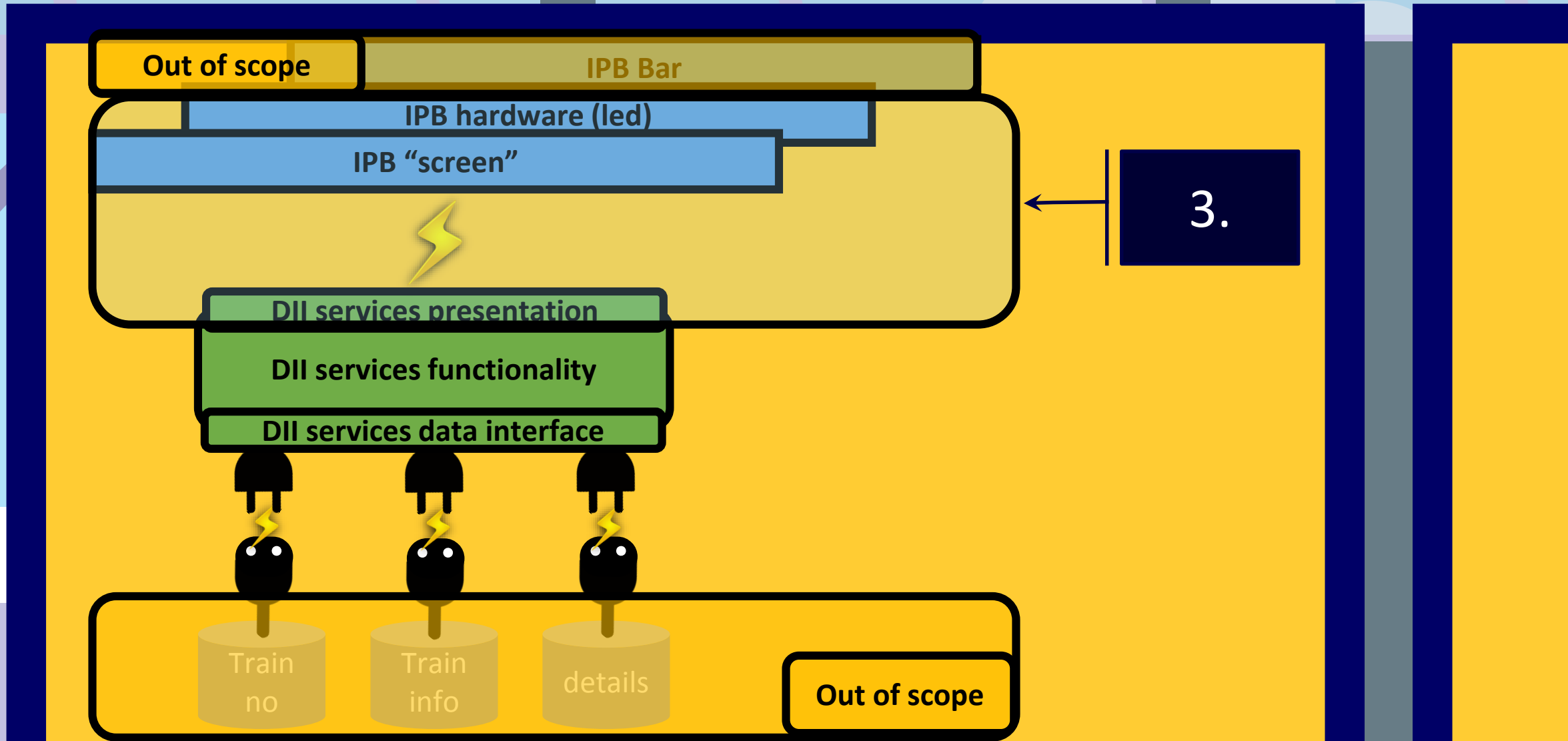
Spoor: SHL2	Materieelnummers: 16417
Van PUB ontvangen: 15:34:27.403	Materieelkenmerktypes: IC-Direct SW6
Naar IPB verstuurd: 15:34:29.512	Afbeeldingssoorten: 2
Treinnummer: 937	Afbeeldingen: IC-Direct_01.png
Stoppositie: 8	IPB-status: VERBONDEN
	IPB-meldingen:



Station Schiphol Airport: Test steps



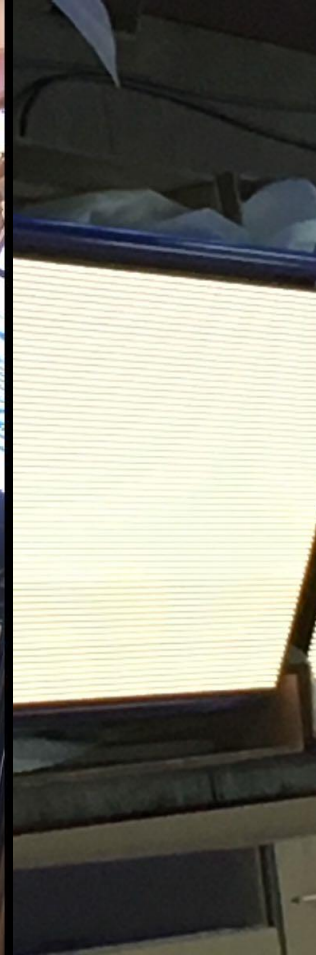
Station Schiphol Airport: Test steps



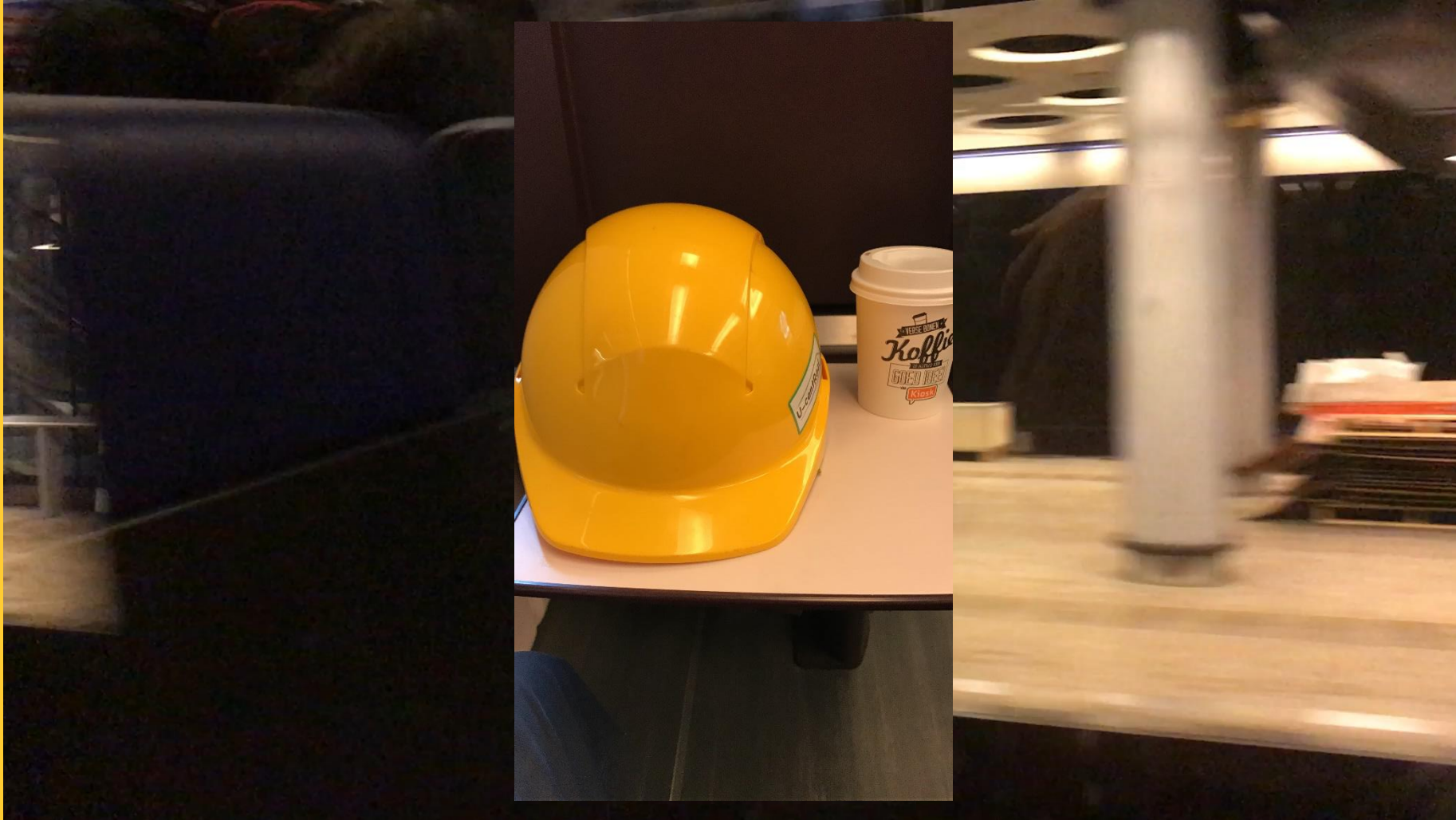
Some where in the Netherlands



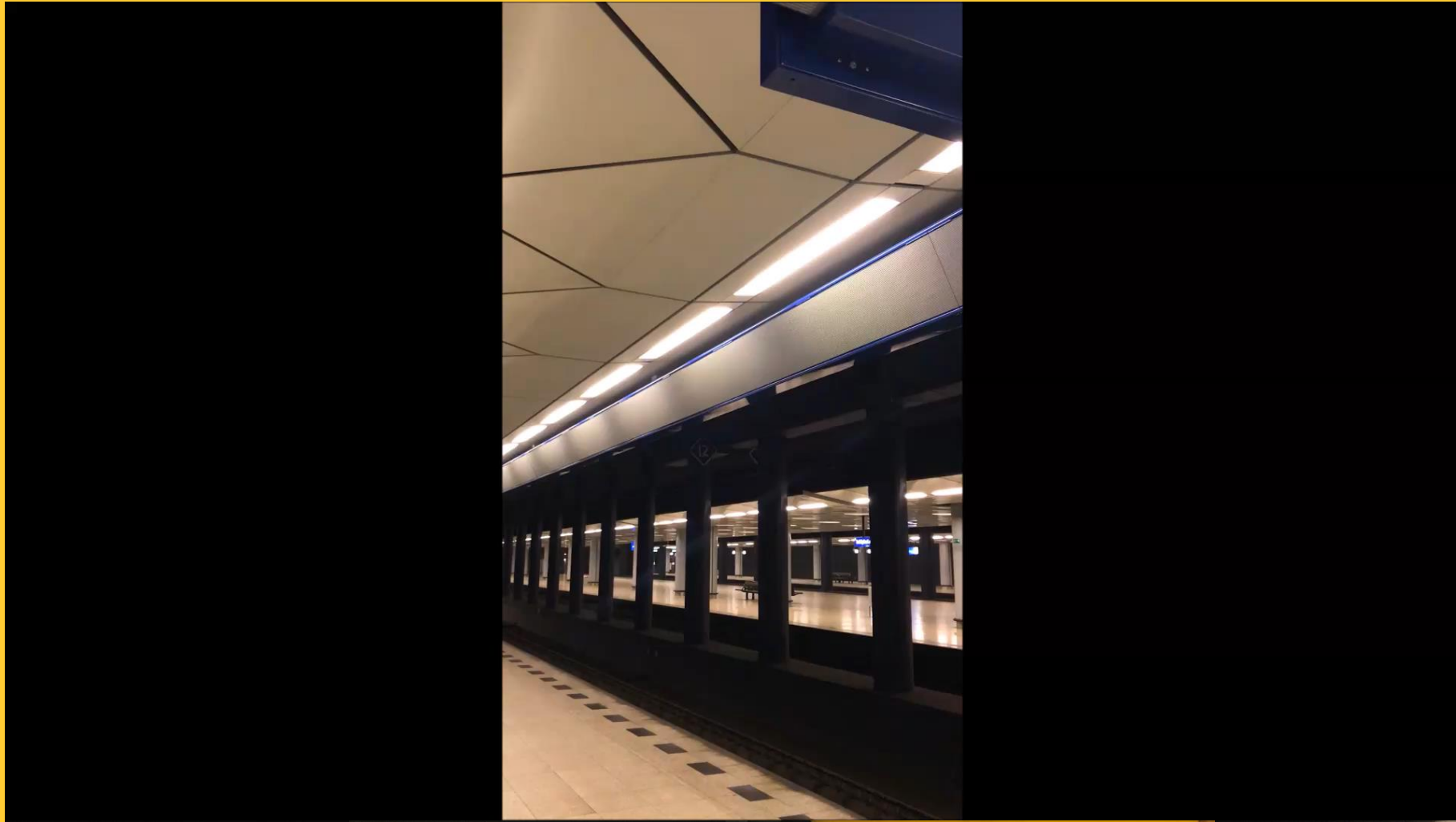
Some where in the Netherlands



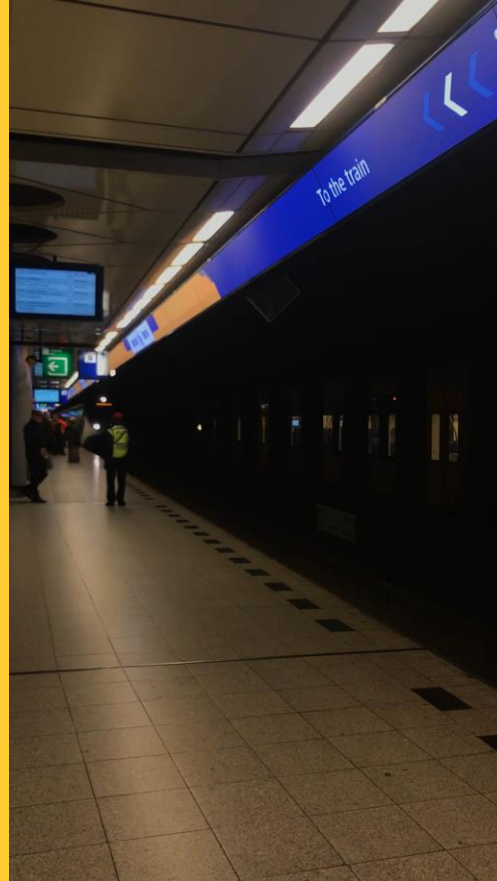
Station Schiphol Airport: integration



Station Schiphol Airport: integration



Station Schiphol Airport



Station Schiphol Airport



Conclusions

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- Risks reduction
- Testability
- Cross functional team
- Quality awareness



Thank you for your attention!
Are there questions?





Wij wensen u een fijne reis

