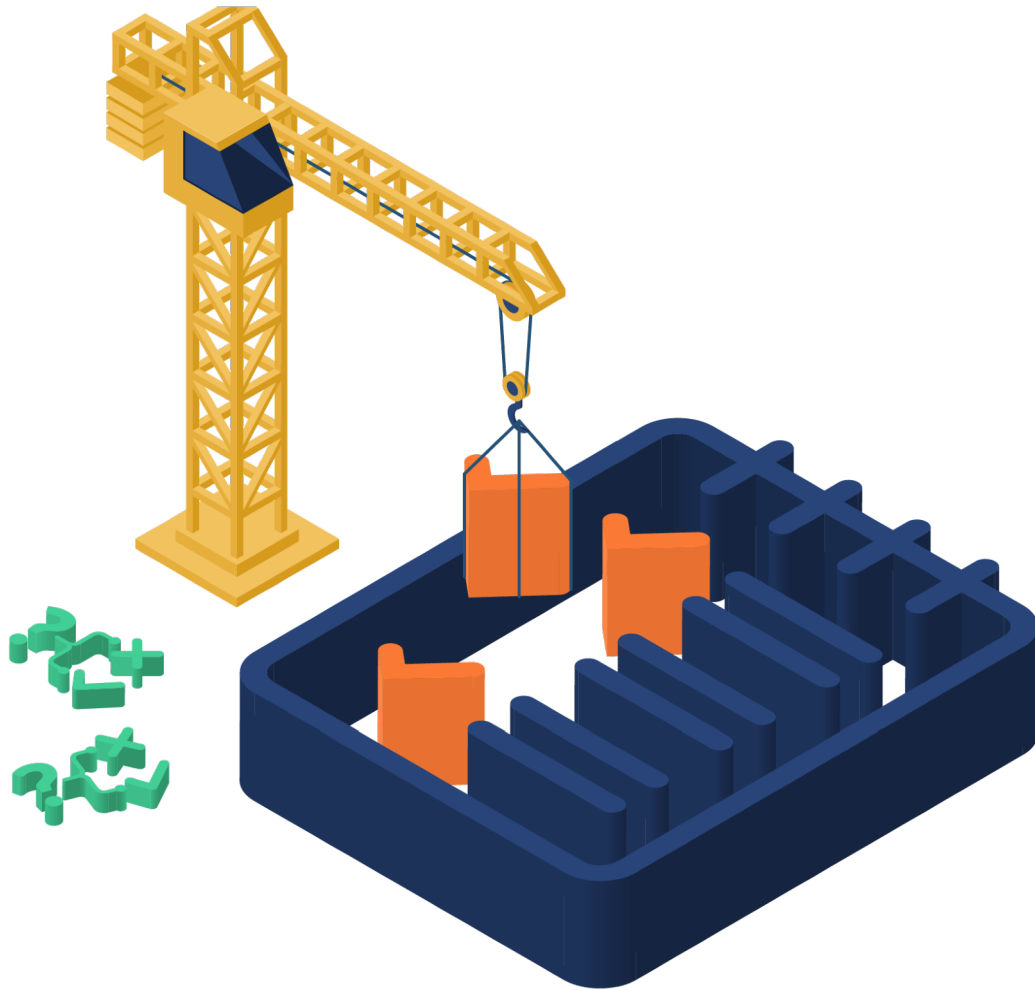


Goals of the day



Getting to know more about MOTUS

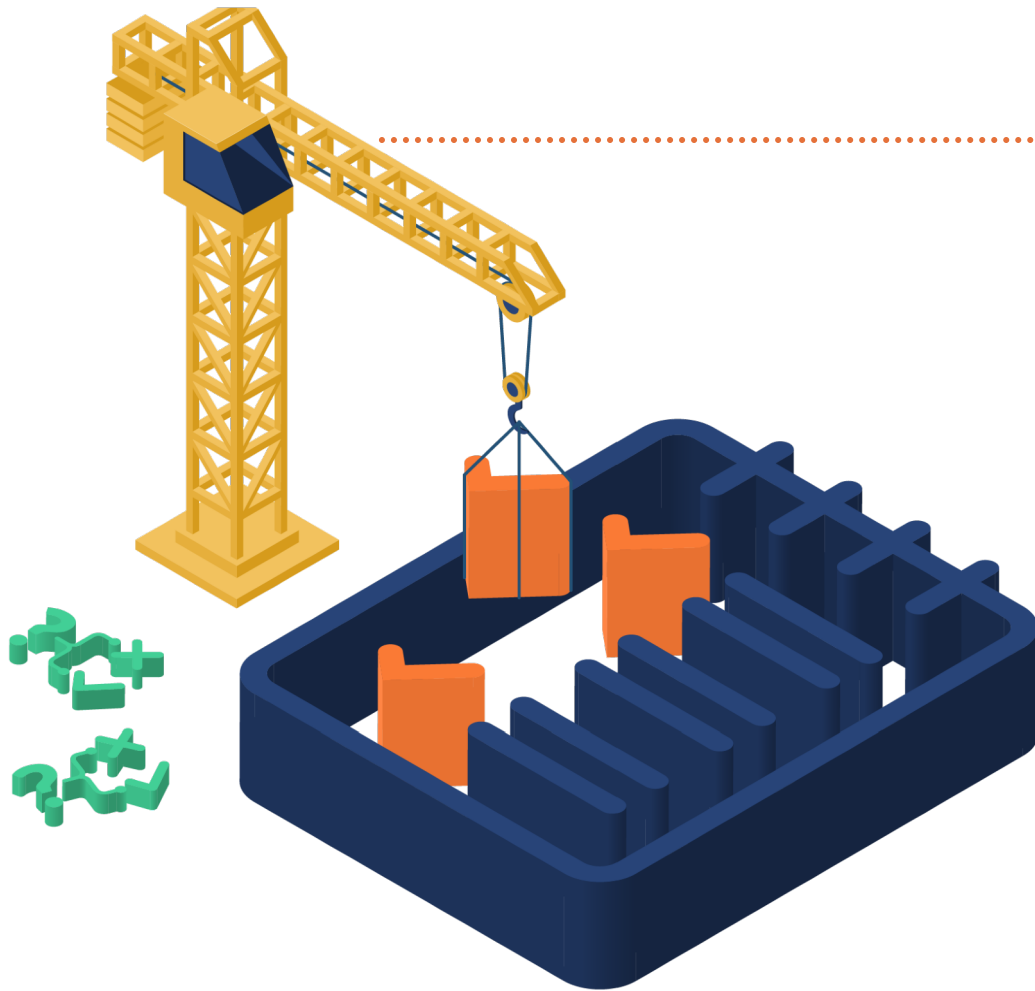
Creating studies in the back-office

HBS

TUS

NTTS satellite event
6/3/2023

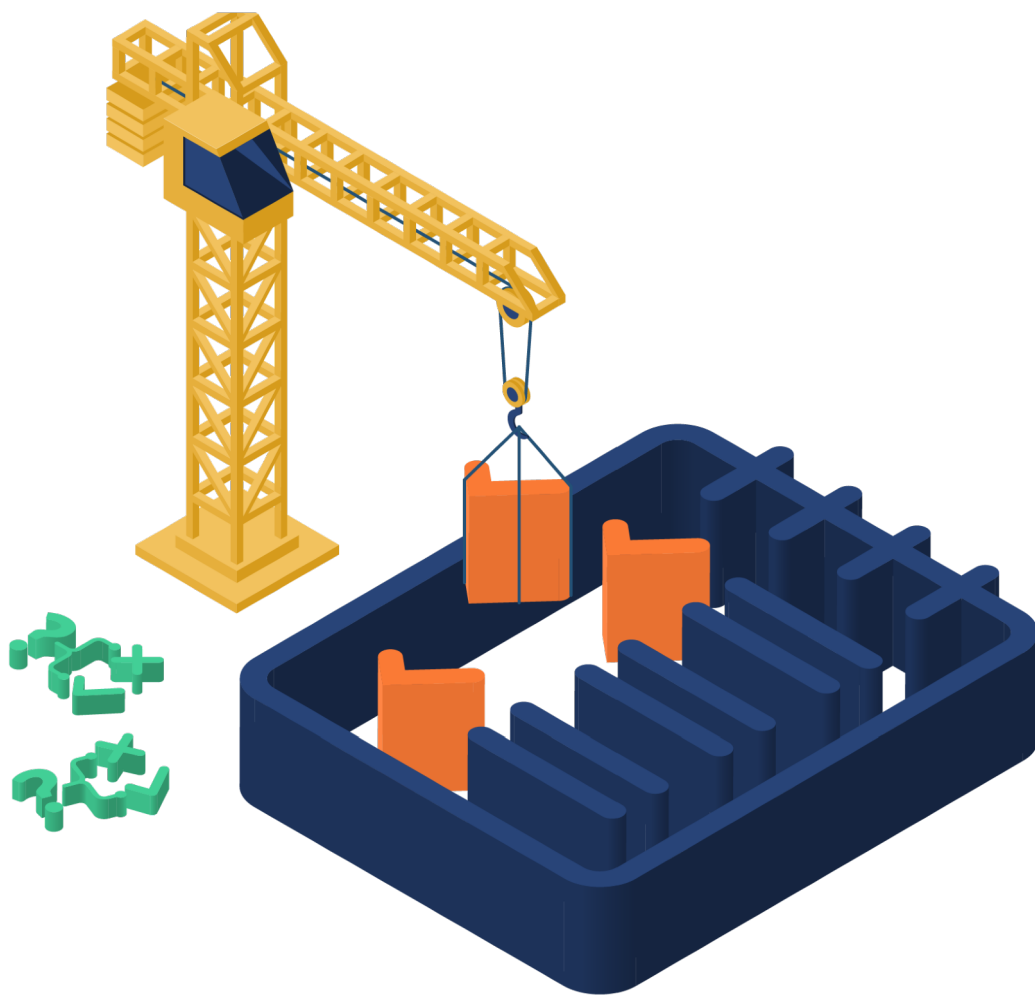
Opening of the **workshop**



Eniel Ninka

NTTS satellite event
6/3/2023

Agenda – first and second part

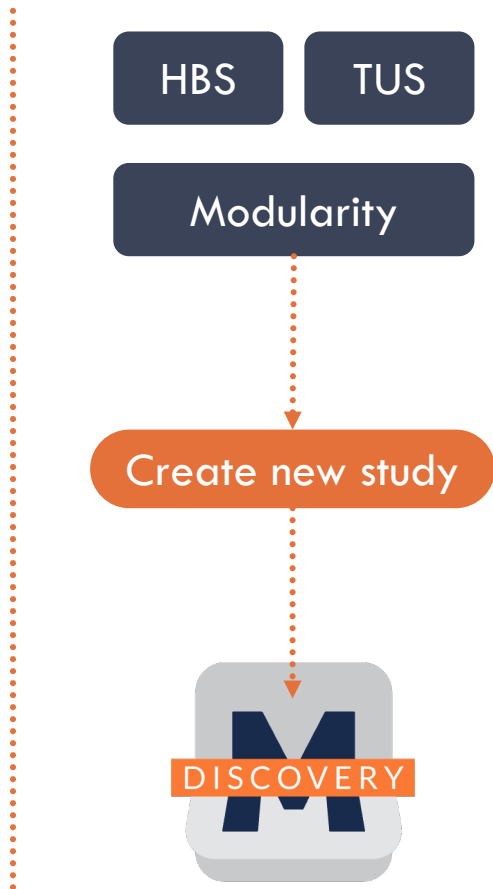


1 What is MOTUS?

- UI/UX
- Components or ‘builders’: back-office
- Architecture

2 Creation of a TUS or HBS app

Preview of the promise



A screenshot of the MOTUS 'All studies' dashboard. The top header shows 'MOTUS All studies'. On the left is a dark blue sidebar with a user profile for 'Joeri Minnen Administrator' and a menu with items: 'Dashboard', 'All studies', 'Add new study', 'My team', and 'Administrator'. The main content area has a search bar for 'Study title' with a filter set to 'All studies'. Below this is a section titled 'Current studies' with the subtitle 'All studies online at the moment. Both active and paused'. It displays four study cards in a 2x2 grid:

- 0 Demo HBS part 1 (Active) - Last response: 2 March 2023
- 0 Demo HBS part 2 (Active) - Last response: 2 March 2023
- 0 Demo TUS part 1 (Active) - Last response: 24 February 2023
- 0 Demo TUS part 2 (Active) - Last response: 24 February 2023

Each card has a 'Details' button. At the bottom of the main area is a dashed box containing a 'Create new study' button.



Meet the team



hbits



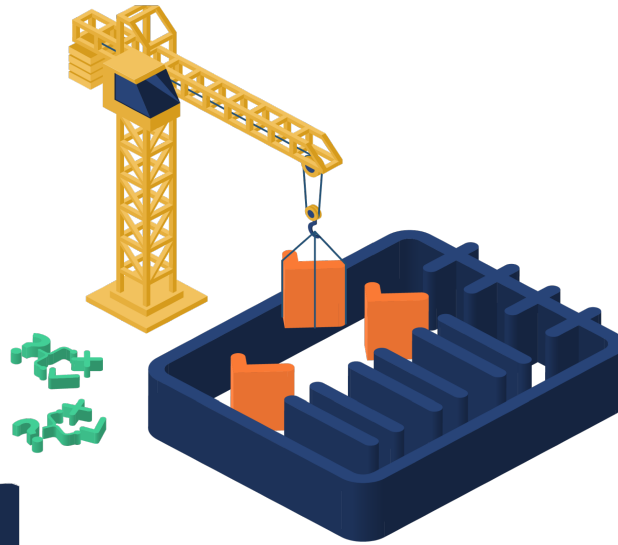
Statbel



Destatis



VUB



hbits



:
What is MOTUS?
Front-office

NTTS satellite event
6/3/2023

hbits

VUB
VRIJE
UNIVERSITEIT
BRUSSEL



STATIS
Statistisches Bundesamt

STATBEL
Belgium in figures

eurostat 

Mobile & Web application: **interchangeability**



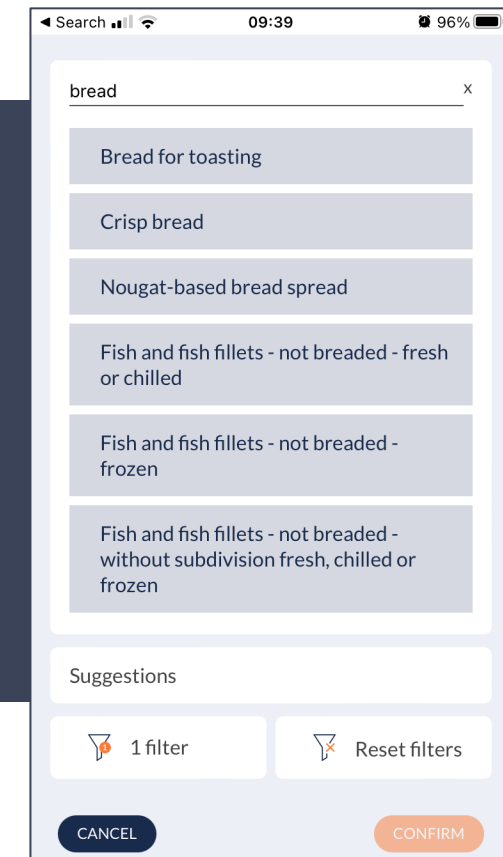
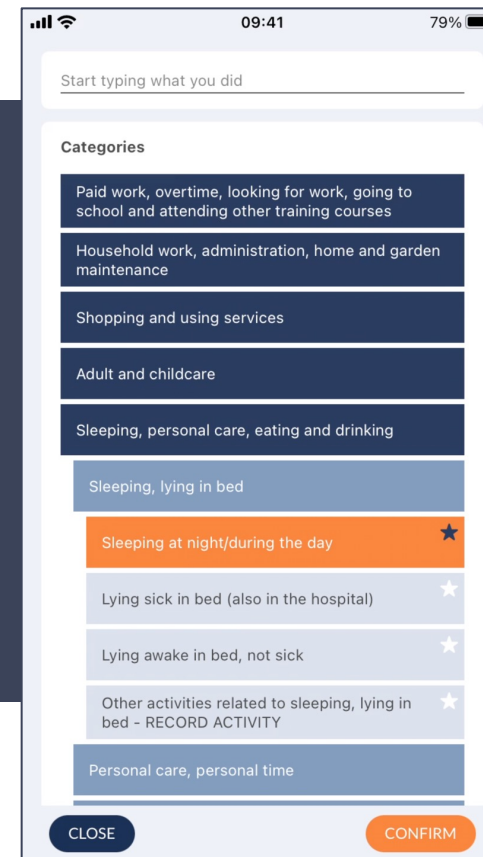
- Mobile application
 - iOS store
 - Android store
- Web application
 - All browsers
- Study content is defined via the back-office
 - Survey
 - Diary
 - Communication
- Languages
 - .xliff files
 - Via back-office



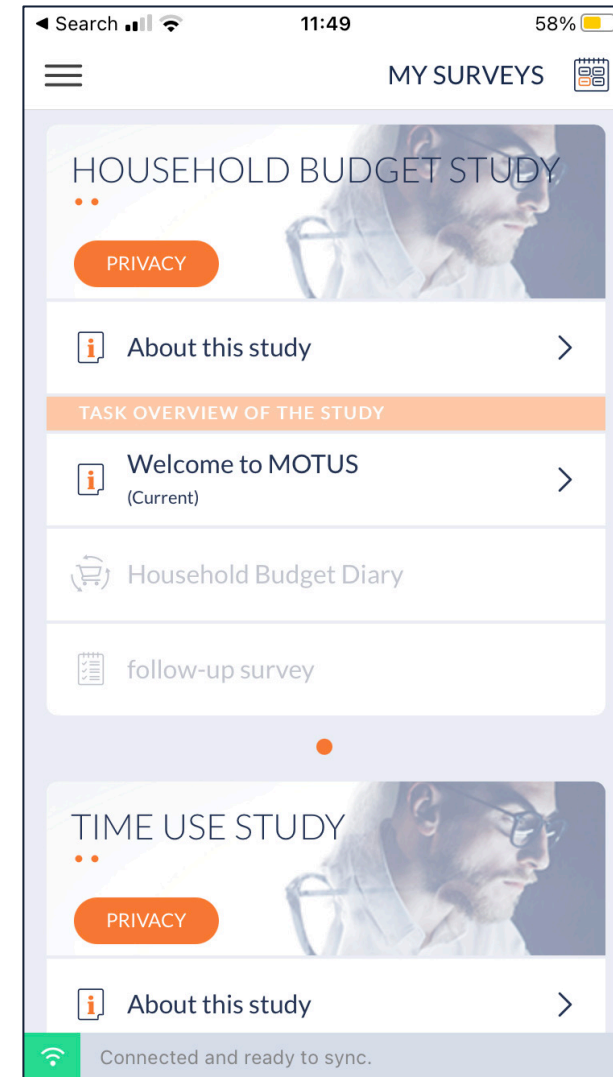
Mobile & Web application: cross-domain



One app, same design components



Mobile & Web application: CROESS-project



Mobile & Web application: unified calendar



STEP 2: TIME DIARY

June 2021

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

08:00 am 802. Reading a periodical (also digital)

09:30 am 501. Talk, discuss, converse (also argue) with other people

10:01 am 000. Paid work (workplace home or elsewhere, for example telework or remote work)

15/06/2021 10:01 am @h1P
15/06/2021 14:20 pm

STEP 2: CONSUMPTION DIARY

June 2022

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

June 16, 2020 208,70 € Total (excl Fixed) 412,86 €

Your monthly fixed costs 1750,75 €
Add or edit fixed costs

Entries: Tuesday June 16

Chimay, Boursin, Kartoffeln, Sahne, Milch, 15,00 €
Coca-cola, Reis, Eis, Papiertaschentuch,...

Focus periods

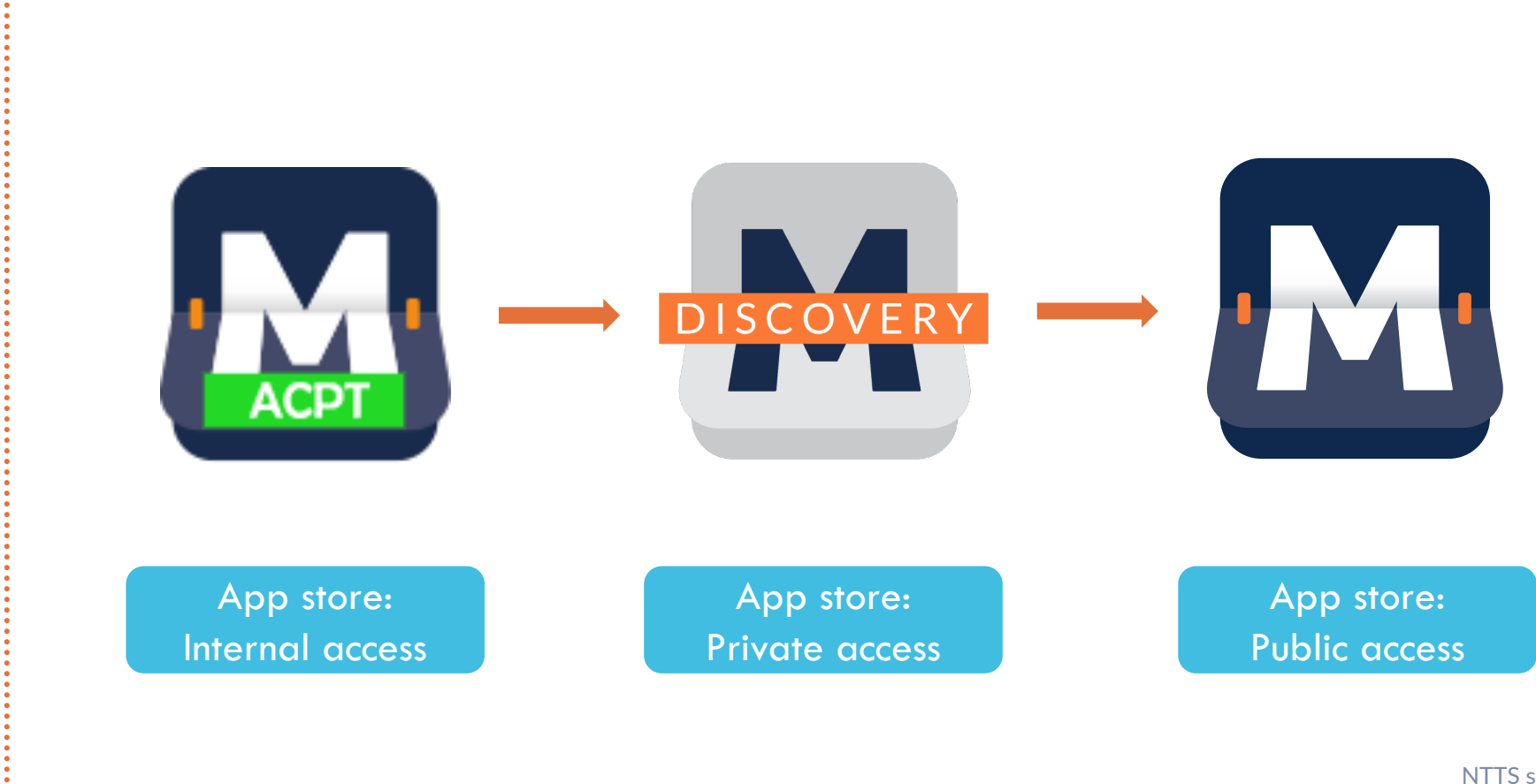
Quality checks

App building process

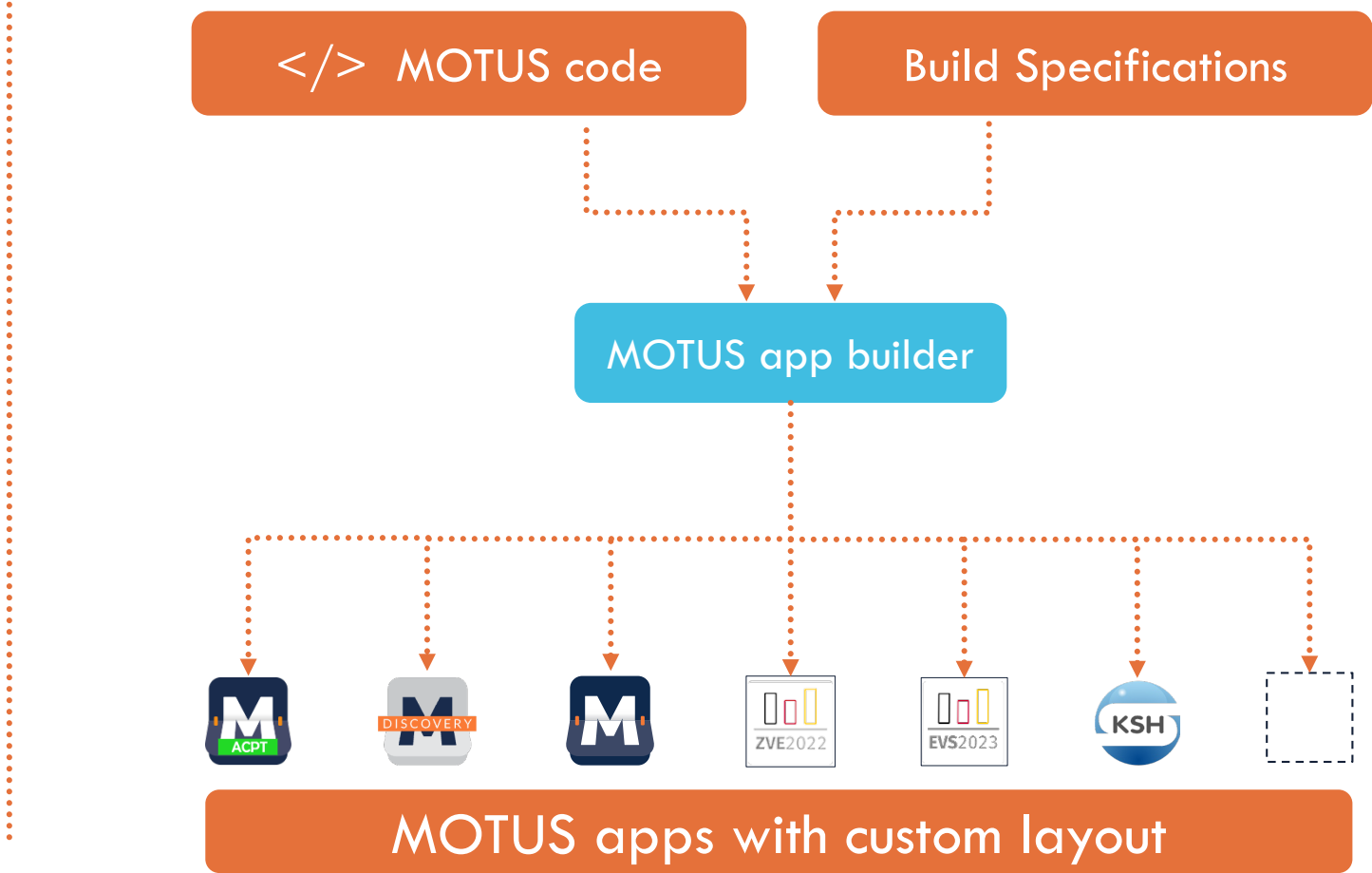


Adding new functionalities

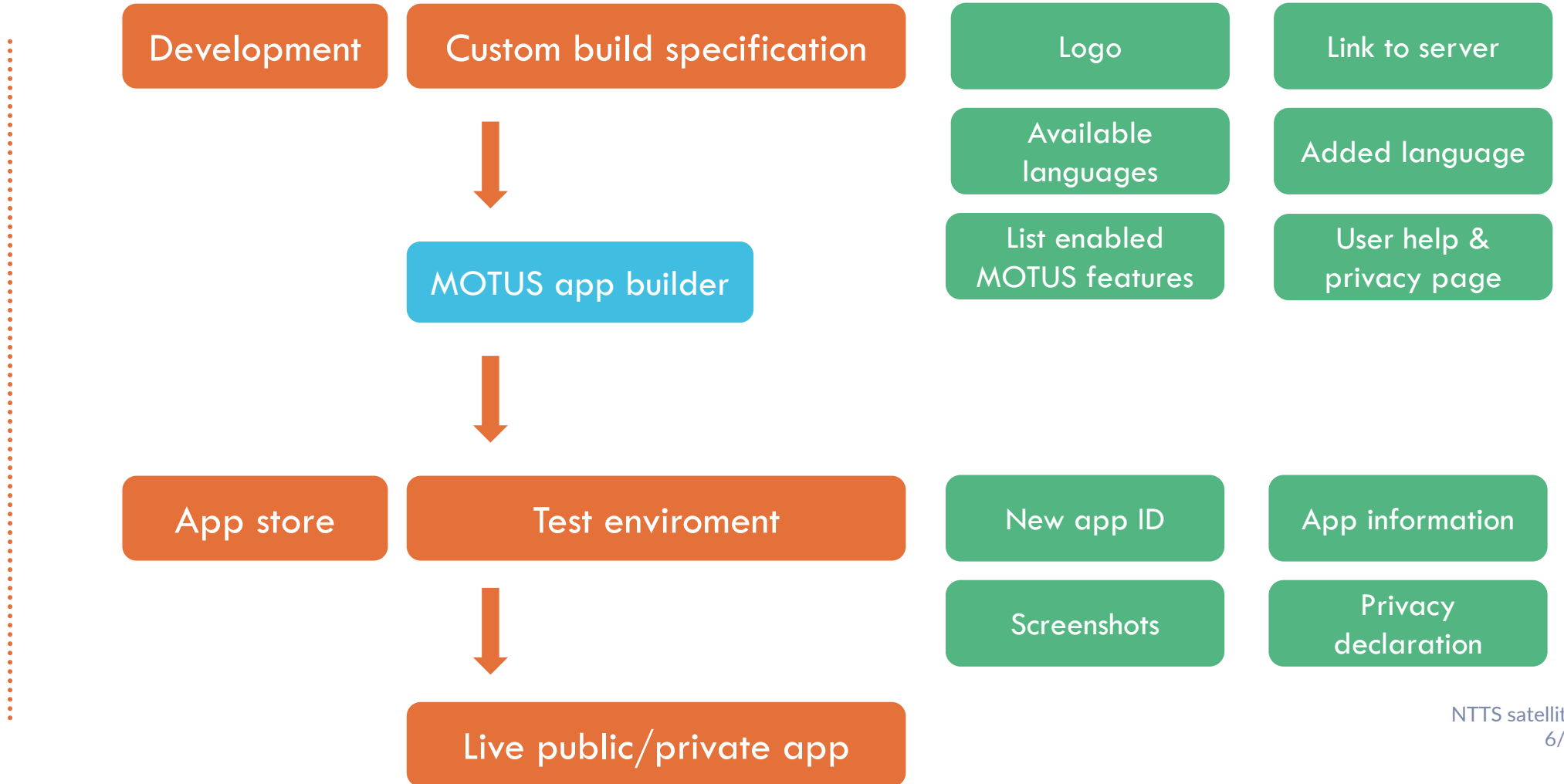
Coding new functionality into the MOTUS app



App building process



App building process





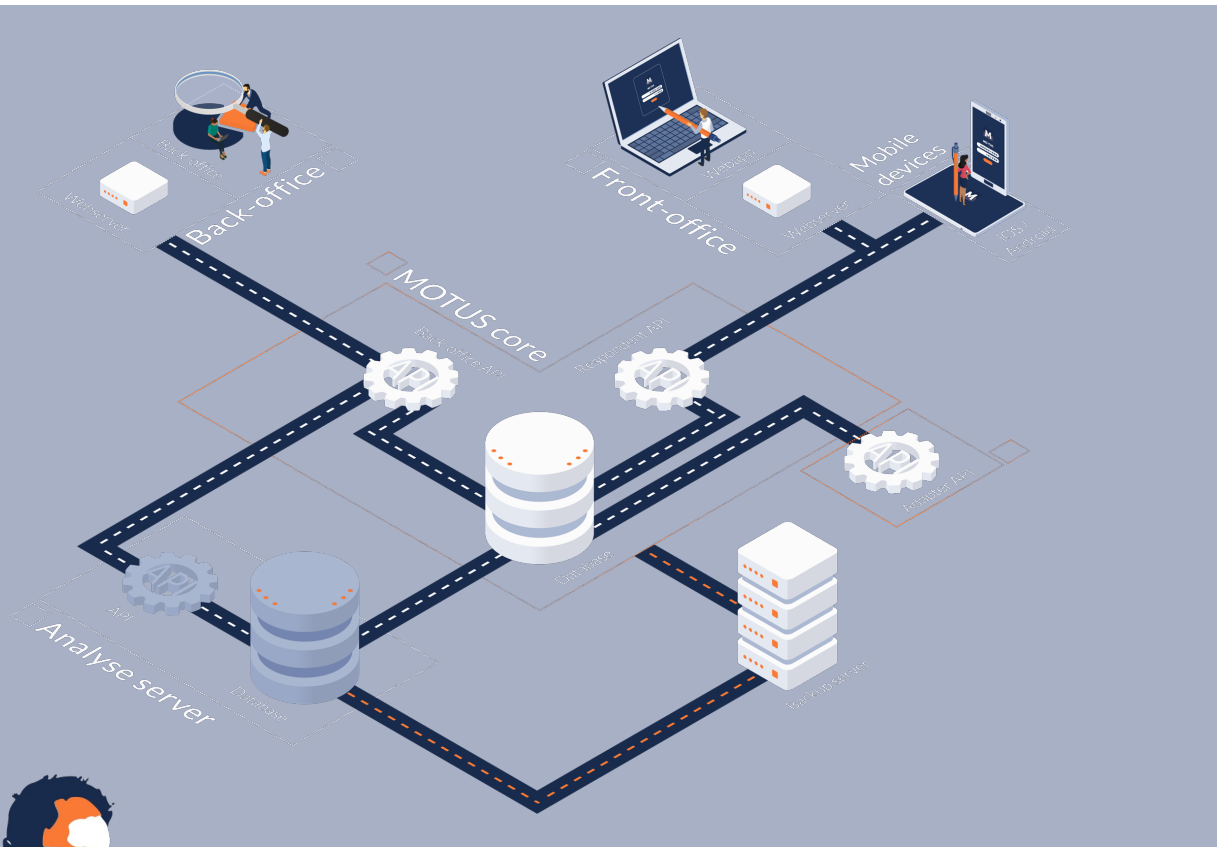
:

What is MOTUS?

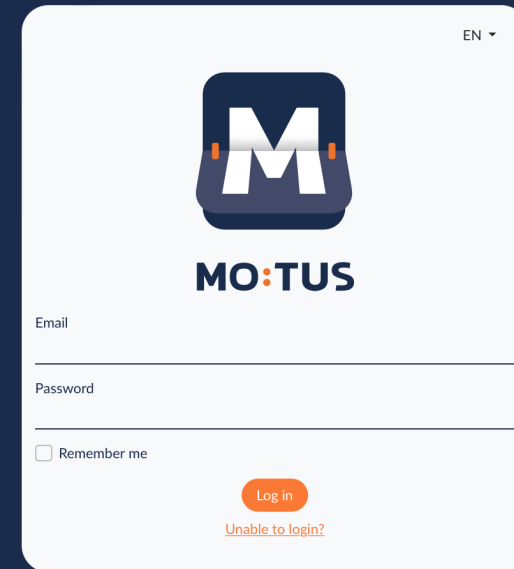
Back-office

NTTS satellite event
6/3/2023

Back-office: <https://www.motusbuilder.io>



Front-office for researchers



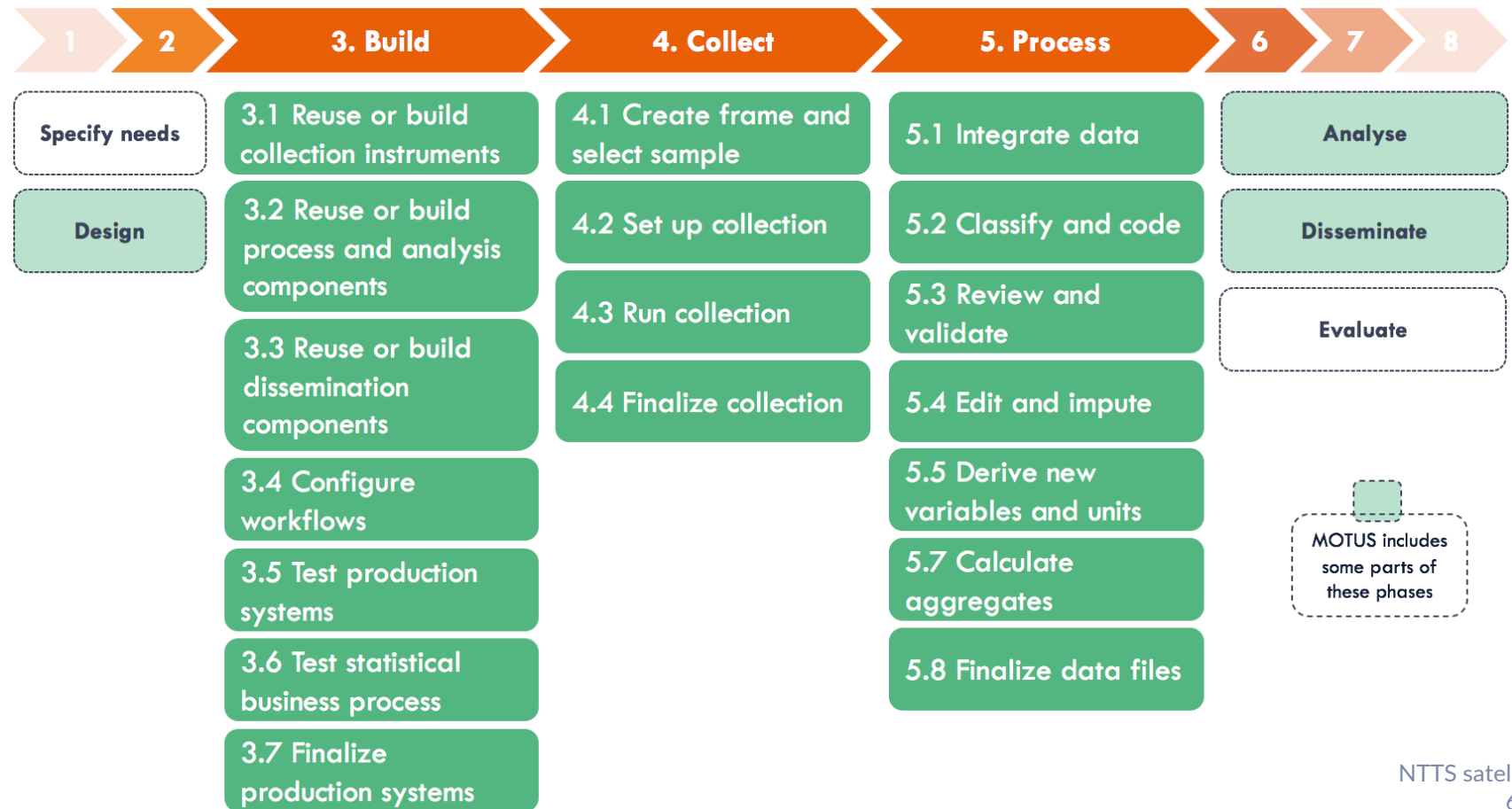
Made out of builders



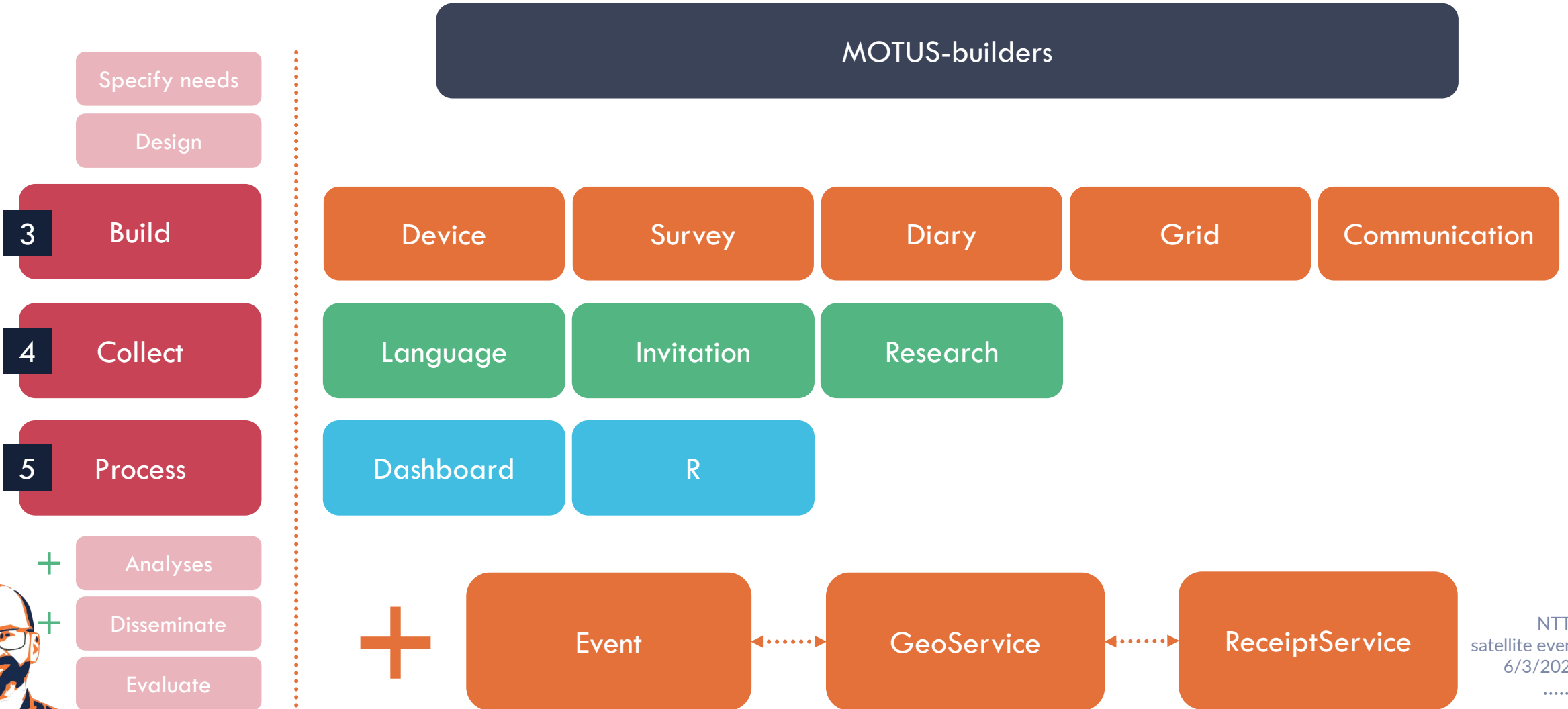
Today

<https://demo1-backoffice.motusdemo.com>

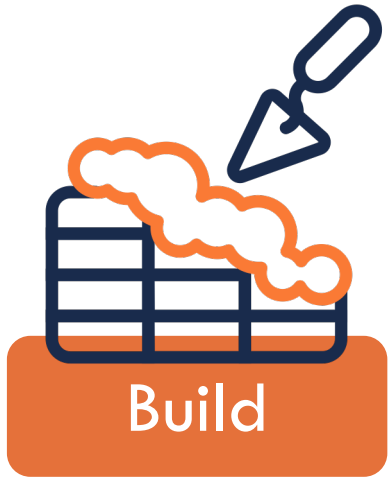
Concept of Modularity – Builders: GSBPM



MOTUS mapped on GSBPM levels



Build process: creating study components



Demo front-office: TUS

STEP 2: TIME DIARY

June 2021

M	T	W	T	F	S	S
1	2	3	4	5	6	7
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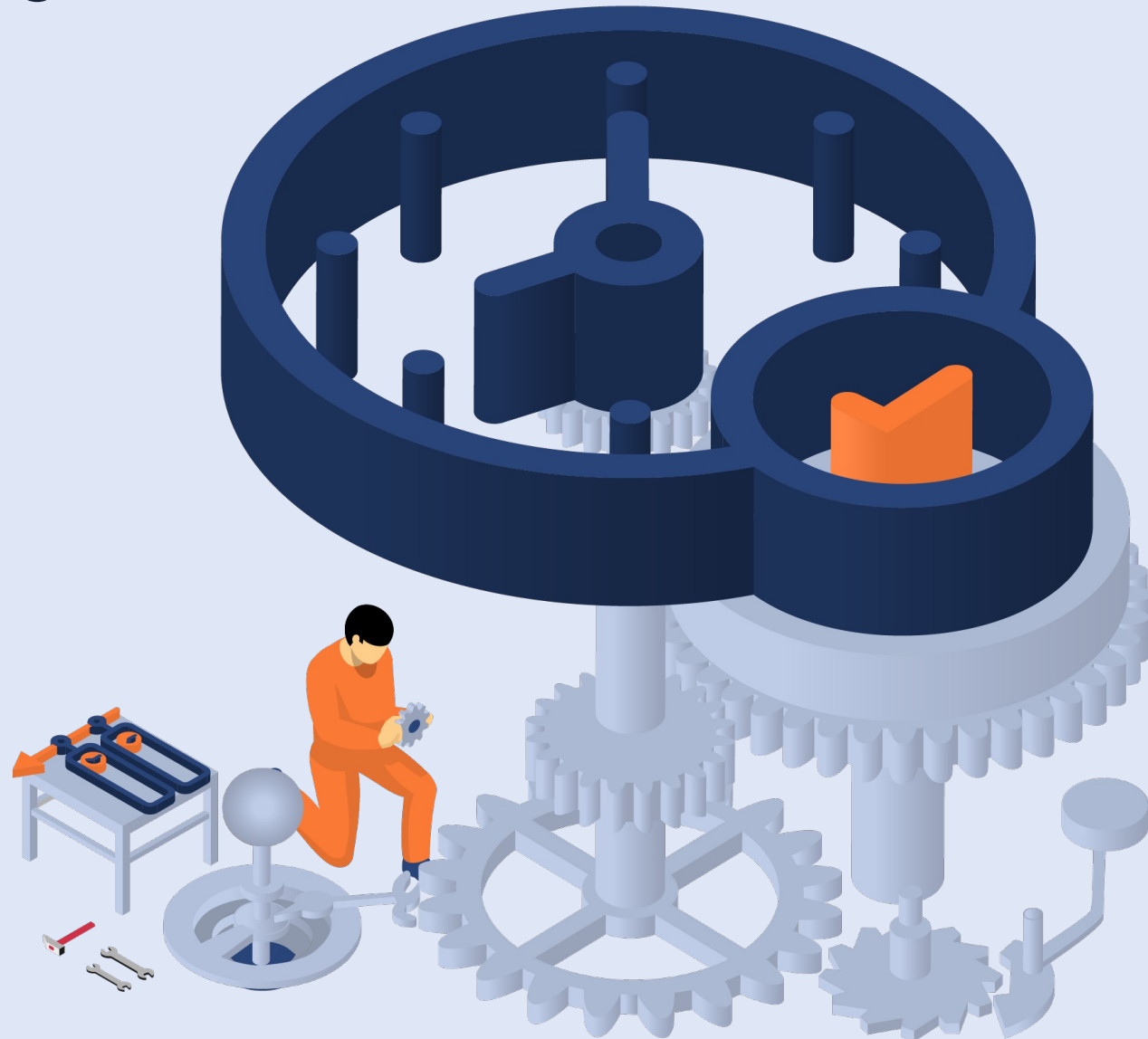
08:00 am 802. Reading a periodical (also digital)

09:30 am 501. Talk, discuss, converse (also argue) with other people

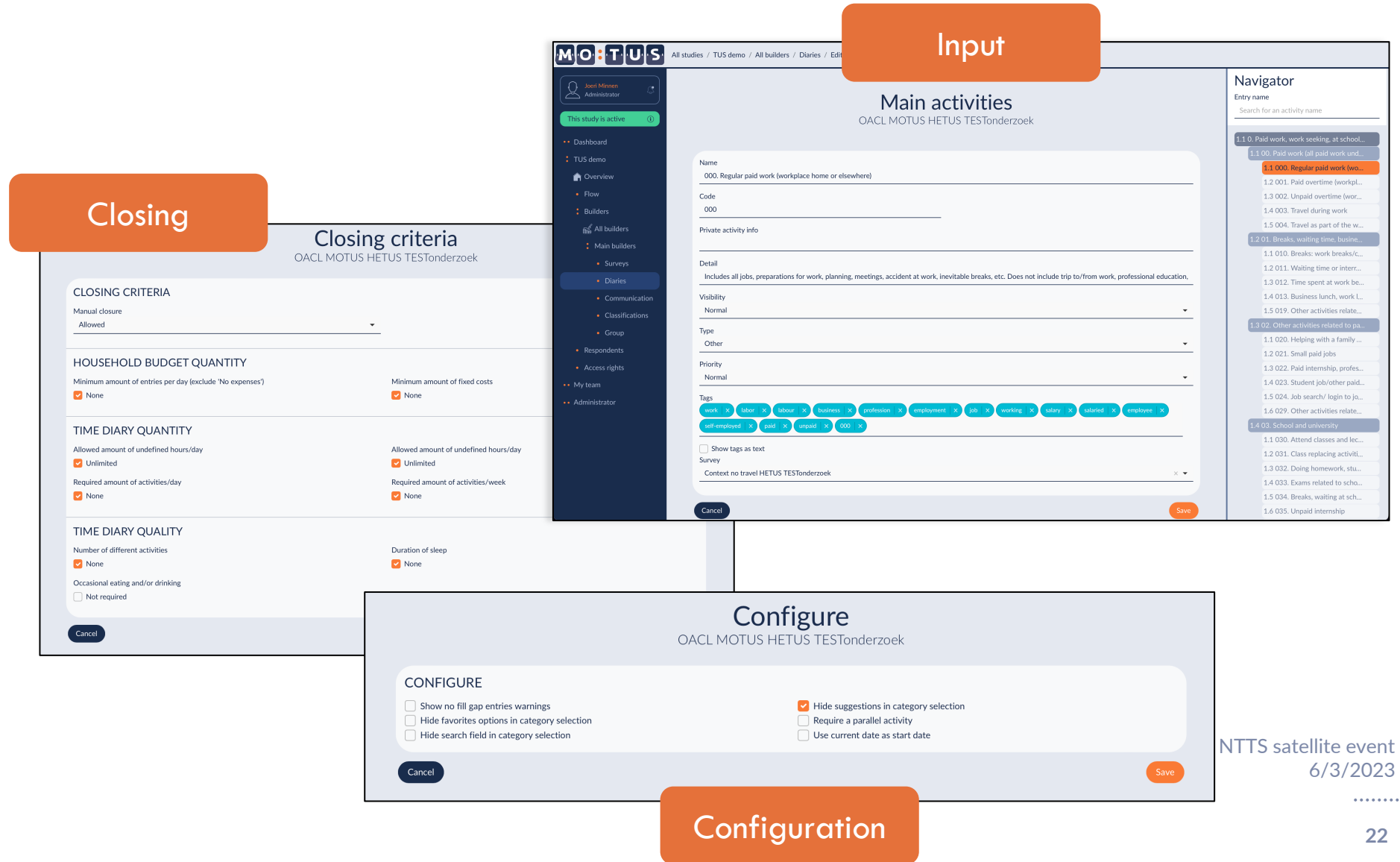
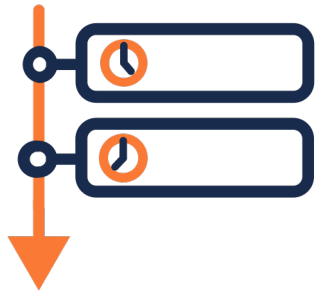
10:01 am 000. Paid work (workplace home or elsewhere, for example telework or remote work)

15/06/2021 10:01 am 2h17

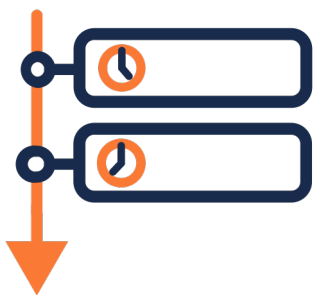
15/06/2021 14:20 pm



Setup of a Time Diary

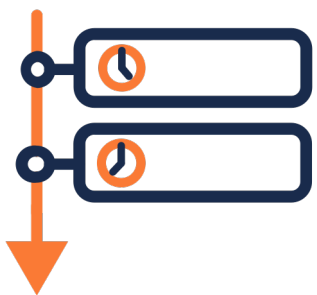


Setup of a Time Diary




- **Activity list**
 - Primary activity
 - Secondary activity
 - Tags
- **Context questions**
 - One for all
 - Specific
 - Open text
- **Parameters**
 - Grain of precision
 - Focus
 - Cycle
 - Learning period

Setup of a Time Diary



- **Registration methods**
 - Search
 - Categories: up to 3 level deep
 - Suggestions
 - Favorites
- **Registration functions**
 - Ongoing
 - Copy, Split, Merge
- **Support**
 - Overview
 - Quality checks
 - Assistant

Demo front-office: HBS

STEP 2 : CONSUMPTION DIARY 

June 2022

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
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June 16, 2020
208,70 €

Total (excl Fixed)
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Your monthly fixed costs 1750,75 €
[Add or edit fixed costs](#)

Entries: Tuesday June 16

Chimay, Boursin, Kartoffeln, Sahne, Milch, 15,00 €
Coca-cola, Reis, Eis, Papiertaschentuch,...



Setup of a Household Budget Diary



Details

List

Search

Setup of a Household Budget Diary



Filters

Available icons

Foodstuffs	Clothes, shoes & accessories
Small expenses (Non-food)	Major expenses (Non-food)
Health & personal care	Transport
Services & education	Culture, sports & free time
Variable property costs	Furniture & household goods
Information & communication	Various other expenses

Available icons

Rent and charges	Financial services
Utilities	Waste and sewage
Mobility	Telecommunication and media
Culture and leisure	Education
Insurances	Maintenance fees
Apartment owner	Energy
Financing of real estate leases	Homeowner
Insurance and financial services	Non owner occupied real estate
Other services and memberships	Other taxes and payments
Second and leisure residence	Tenant

Fixed costs

Setup of a Household Budget Diary



- **COICOP list**
 - Structured flat list
 - Tags - Meilisearch
- **Registration functions**
 - Search
 - Filter (up to 10 categories)
- **Extra questions**
 - Country
 - Ticket level
 - Product level

Setup of a Household Budget Diary



- **Fixed costs**
 - Up to 14 fixed costs with sublevels
 - Cycle of payment
 - Integration in COICOP-list
- **Calculation**
 - Summation
 - Reduction
 - Return
- **Ticket level**
 - Overview of purchases
 - Shop registration

Setup of a Survey



MOTUS All studies / TUS demo / All builders / Surveys / Context no travel HETUS TESTonderzoek

Edit survey[®]

Context no travel HETUS TESTonderzoek

MULTIPLE CHOICE

Question
Did you use ...?

Additional description for respondent

Private question info remaining: 400

Variable name
device_notravel

Select layout
Z-style: left to right then down

Sort order
Sequence

Selection ranges
Minimum required Maximum allowed

Settings
 Required
 Hide label
 Hide title

Default value

ANSWERS

- Smartphone
- Mobile phone (not a smartphone)
- Tablet
- Other smart device (smart watch, ...)
- Laptop/computer
- No device used

Add new answer

Question types

- Static text (abc)
- Checkbox
- Date (calendar icon)
- Number (123)
- Decimal (1,23)
- Short text
- Text (lines icon)
- Range (>...<)
- Single choice (radio buttons icon)
- Multiple choice (checkboxes icon)
- Time (clock icon)
- Scale (0-100 slider icon)
- Ranking (1 icon)
- Location (map icon)

Navigator

Question
Search for a question

- Did you use a device during t...
- Did you use ...?**
- Where were you?
- Were you alone or together...
- How much did you enjoy this...

Cancel Save

Setup of a Survey



- **Various question types**
 - Up to 14 different question types
 - Variable name
 - Layout
 - Sorting order
 - Settings
- **Logic/routing**
 - Conditional logic
 - Hide/jump questions
- **Question validation**
 - 2 step validation
- **Merge fields/group answers**
 - Input value
 - Return value

Setup of Communication



- **Types of communication via editor**
 - Email
 - Pages
 - Notifications
- **Variable fields**
- **Email template/preview**
- **Communication settings**
 - Contacts of the study
- **Specific communication**
 - Password reset
 - Activation account
 - Privacy
 - FAQ/Help

Demo front-office: My Group

09:41 100%

CREATE GROUP

For this survey, we will ask you to provide an overview of your household. Your household consists of everyone who lives in the same house as you. We already know your details. To enter the members of your household, click on 'Add a member'. To make an adjustment, click on the person's name. When you have finished putting together your household, click on Confirm.

Enak Cortebeek

Steph Yu(Wife)

Kamil Yu-Cortebeek(Son)

Linde Yu-Cortebeek(Daughter)

Add a member

CONFIRM



Setup of a Group



Define group

Define relations

Answer extra questions

Setup of a Group



- **Step 1**
 - Group definition
 - Appointment of reference person
 - Background characteristics
 - Email address
- **Step 2**
 - Relationship
 - 1-to-n
 - All-to-n
- **Step 3**
 - Added survey questions
- **Invitation to eligible members**

Setup of a Group



Group members

Demo HBS part 1

STEPH YU	
First name	Steph
Last name	Yu
Email	stephalcalayu@gmail.com
Birthday	20/06/1989
Gender	f
Relation	wife
Other relations of Steph Yu	
Linde Yu-Cortebeek	daughter (biological/adoptive)
Kamil Yu-Cortebeek	son (biological/adoptive)
Answers	
Next study: Demo HBS part 2	
Goto respondent	Goto flow

[Close](#)

Eligible

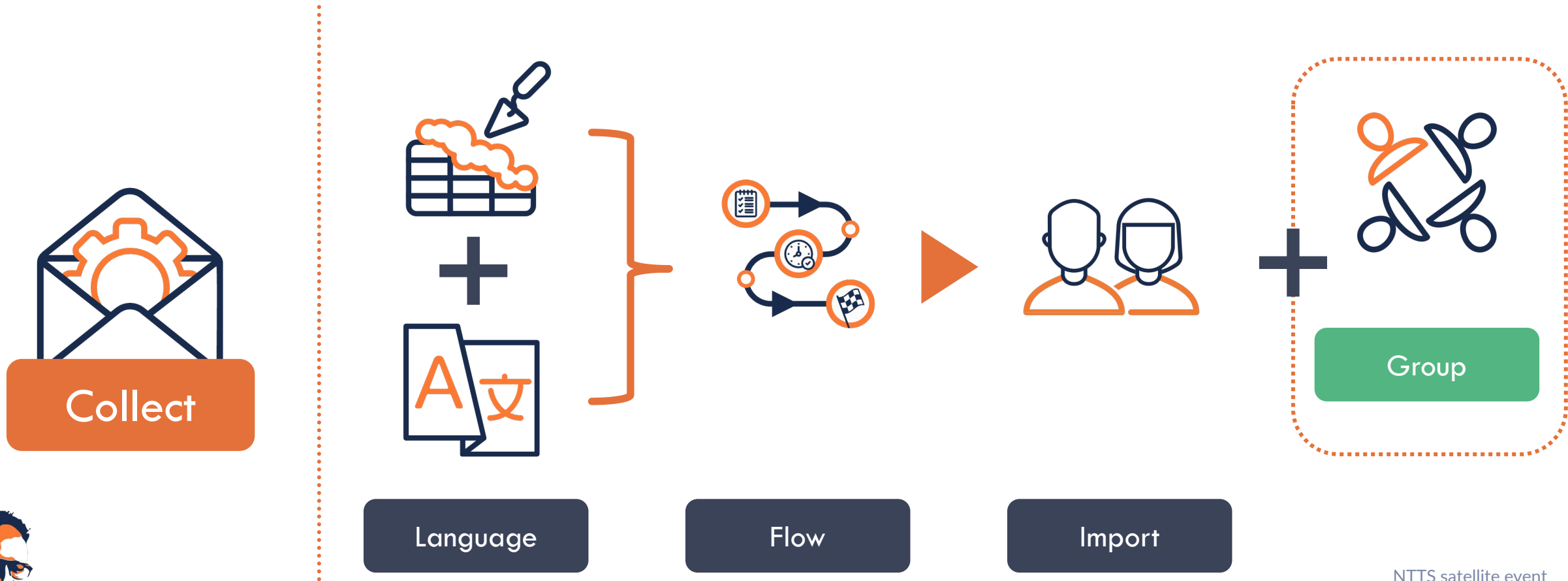
LINDE YU-CORTEBEECK	
First name	Linde
Last name	Yu-Cortebeek
Email	enak.cortebeek@gmail.com
Birthday	11/03/2012
Gender	f
Relation	daughter (biological/adoptive)
Other relations of Linde Yu-Cortebeek	
Steph Yu	mother (biological/adoptive)
Kamil Yu-Cortebeek	brother (biological/adoptive)
Answers	
Next study: Demo HBS part 2	
Goto respondent	Goto flow

Eligible

KAMIL YU-CORTEBEECK	
First name	Kamil
Last name	Yu-Cortebeek
Email	
Birthday	17/06/2022
Gender	m
Relation	son (biological/adoptive)
Other relations of Kamil Yu-Cortebeek	
Steph Yu	mother (biological/adoptive)
Linde Yu-Cortebeek	sister (biological/adoptive)
Answers	
Next study: Demo HBS part 2	
Goto respondent	Goto flow

Not eligible

Collect process: Collecting data



Setup of Languages



Translations [?]

Demo TUS part 1

DEFAULT LANGUAGE

Selected language
English Edit Export xlfif Import xlfif

ADDITIONAL LANGUAGES

<input checked="" type="checkbox"/> German	0% of German is translated	Edit translation
<input checked="" type="checkbox"/> French	44% of French is translated	Edit translation
<input checked="" type="checkbox"/> Dutch	45% of Dutch is translated	Edit translation

Cancel Save

Languages

Pages

NTTS_Further course of the survey (Demo TUS part 1) Edit
100% translated

Emails

NTTS_Household invitation (Demo TUS part 1) Edit
66% translated

NTTS_Invitation email (Demo TUS part 1) Edit
66% translated

Group relations

Demo TUS part 1 Edit
57% translated

Close

Files

Surveys

NTTS_Extra questions children younger than 10 (Demo TUS part 1) Edit
46% translated

NTTS_Household questionnaire (Demo TUS part 1)

Public name
Huishoudvragenlijst

Questions

- 1 We would like to ask a few more questions about your household. Answering this questionnaire will take you on average less than 5 minutes. ^
- 2 Page break ^
- 3 The following questions are about help and services received from someone outside your household. We only ask for non-professional help and services, both paid and unpaid. Professional help and services provided by companies or public institutions are not taken into account (e.g., cleaning help paid with service vouchers, care at home provided by the health insurance fund or the public social welfare centre ...). ^
- 4 Page break ^
- 5 Did you or any other household member receive help or services for child care from someone who is not part of your household at any time during the last 4 weeks? ^

Question
Hebt u of een ander lid van uw huishouden in de afgelopen vier weken op enig moment hulp of diensten ontvangen van iemand die geen lid van u

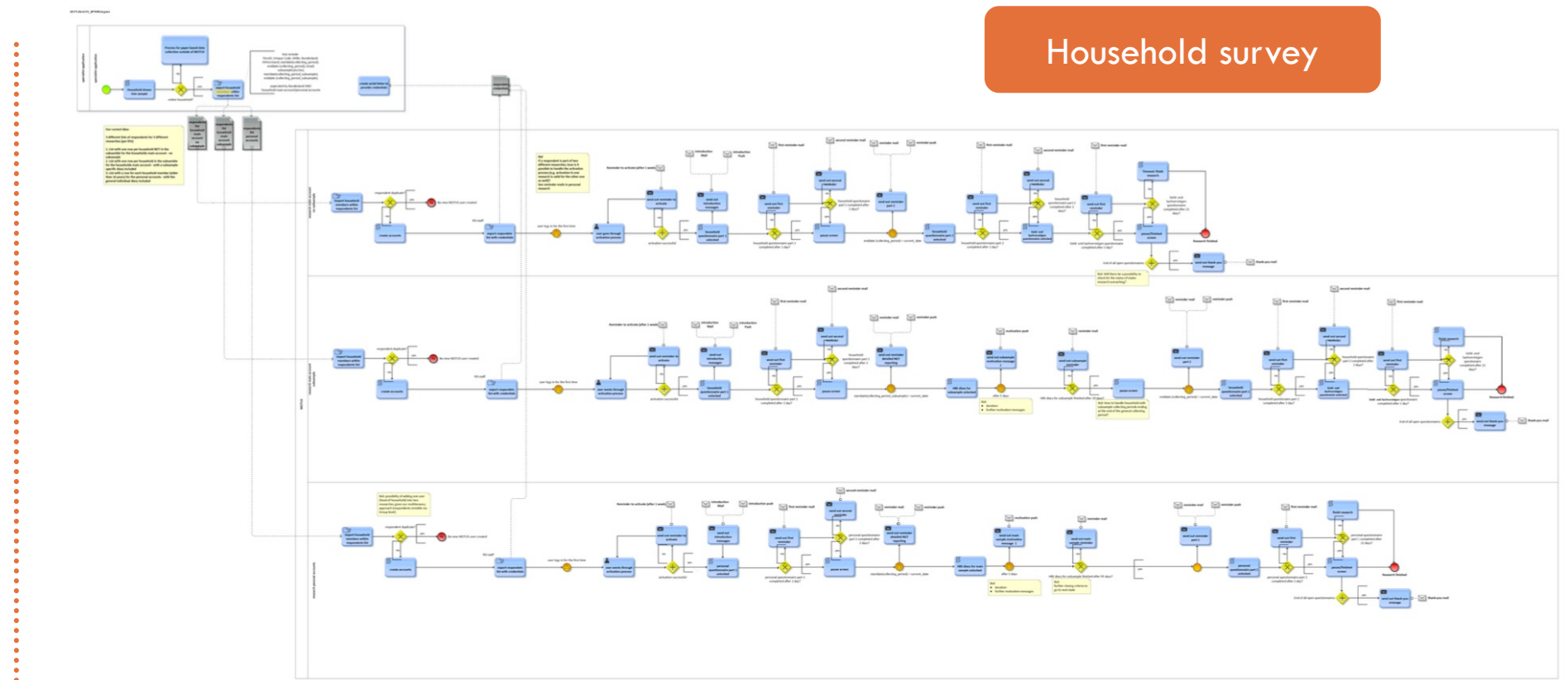
Additional description for respondent

Method remaining: 400

Answers

Answer	Ja
Answer	Nee
Answer	Ik weet het niet
Answer	Geen antwoord
Answer	Niet van toepassing

Setup of a Study flow



How to create a business process (BPMN)?

Setup of a Study flow – first study



Read in

Action: [Immediately] Go to login

Login
Respondents log in

Action: [On complete] Go to the profile questionnaire

Action: [Immediately] Invitation email

Action: [On time 2 days] First reminder Invitation email

Action: [On time 3 days] Second reminder Invitation email

My profile
The reference person adds his or her profile.

Action: [On complete] Go to my group

Action: [On time 2 days] First reminder to complete My profile

Action: [On time 3 days] Second reminder to complete My profile

Action: End research after 30 days

Main builders

- Survey
- Diary
- Communication
- Break
- Create group
- Sync group

Action builders

- Send email
- Send message
- Next state
- End research

Phases

Tasks

Conditions

Actions

Setup of a Study flow – first study

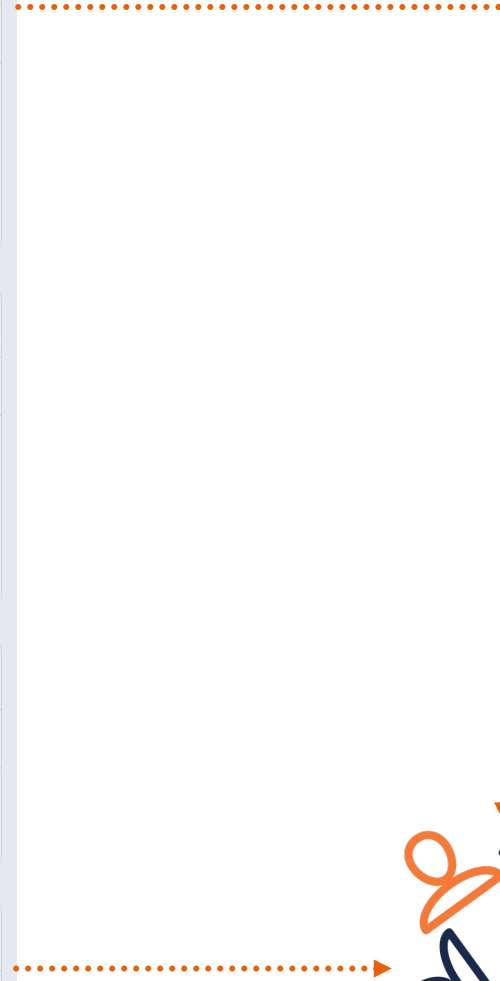


My group
Composition of My household

Household questionnaire
The reference person completes his or her household questionnaire.

Information about the next study
Information about the next study

Finish
Continue to next research Test study Joeri second part



Setup of a Study flow – second study



Read in reference person and other household members
Read in to the second research

Edit [trash icon]

Action: [Event Enter from other research] Go to Start study [edit icon] [trash icon]

Action: [Immediately] Go to Start study [edit icon] [trash icon]

Start study
Invitation to the study

Edit [trash icon]

Action: [Immediately] Invitation to participate [edit icon] [trash icon]

Action: [On time 2 days] Reminder invitation to participate [edit icon] [trash icon]

Action: [On time 3 days] Second reminder to participate [edit icon] [trash icon]

Action: [On complete] Go to individual pre-questionnaire [edit icon] [trash icon]

Action: [At login] Go to individual questionnaire [edit icon] [trash icon]

Action: End research after 30 days [edit icon] [trash icon]

Individual pre-questionnaire
Completion of an individual pre-questionnaire

Edit [trash icon]

Action: [On complete] Go to Sync phase [edit icon] [trash icon]

Action: [Immediately] Start individual pre-questionnaire [edit icon] [trash icon]

Action: [On time 2 days] Reminder to start individual pre-questionnaire [edit icon] [trash icon]

Action: End research after 30 days [edit icon] [trash icon]

Entry household members

Phases

Setup of a Study flow



Sync phase
Mapping all household members together

Action: [On complete] Go to individual post-questionnaire

Action: [On time 2 days] Reminder to go to HBS diary

Action: [On time 3 days] Reminder to go to HBS diary

HBS diary

Action: [On complete] Go to individual post-questionnaire

Action: [Immediately] Email with information about the HBS study

Action: End research after 30 days

Individual post-questionnaire

Action: [On complete] Go to finish

Action: [Immediately] Start individual post-questionnaire

Action: [On time 2 days] Reminder to start individual post-questionnaire

Action: End research after 30 days

Research completed
Research completed

Action: [Immediately] Research completed

Action: [On time 7 days] Go to finish

Finish
End the research



In this phase, all participating members are synchronised for the next phases of the survey. The list below shows the members of your household who are already in the same phase. By clicking on the household member, you will see the person's details and current position in the survey. If you are the reference person for your household, you can continue the survey when everyone else has reached this stage (the person has a tick in his/her name). You can also remove persons from the list first and then proceed to the next phase.

Joeri Minnen	✓
Karolien Luyten	🗑️

Details of the group member and their current position in the research.

Name
Karolien Luyten

Current research phase
Aanmelden

Current state
Active but in previous phase.

Continue

Setup of Invitations



Respondent
CROESS HBS study

PRIVATE INFO

First name Enak	Last name Cortebeeck
Email enak.cortebeeck@hbits.io	Language English

Options

- Disable email communication
- Disable push notifications to the respondent's devices
- Pause all communication
- Enable geotracking
- Show the assistant

RESEARCH SETTINGS

Start date

MERGEFIELDS

Start of focus Period 1	Start of focus period 2
Start of focus period 3	Start of focus period 4

start of diary

ACCOUNT SETTINGS

Username enak3	Original assigned password Croess	Password
Unique code	UUID 8df1c8ea-3fb0-40e7-b512-89f80ed2b327	

Options

- Force to change the password on next login
- Require respondent activation
- Enable development mode for this respondent

Account actions

- Clear current activation: The respondent must reactivate on the next login
- Unblock the respondent's account (not blocked)

Cancel Save

Private info

Research settings

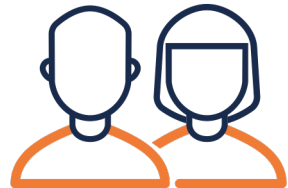
Mergefields

Account settings

Import

Export

Setup of Invitations



Import respondents from a data file [?]

Demo TUS part 1

IMPORT

Document

Choose File Respondents for Demo TUS part 1.xlsx

IMPORTED FILE PREVIEW

1	First name	Name	Email	Username	Initial password	Language
2	Joeri	Minnen	Joeri.Minnen@vub.be	demotest0001		
3	Joeri	Minnen	Joeri.Minnen@vub.be	demotest0002		
4	Joeri	Minnen	Joeri.Minnen@vub.be	demotest0003		
...						

Cancel

Import file

Link variables

Import respondents from a data file

Demo TUS part 1

IMPORT RESPONDENTS FROM A DATA FILE

Options

- First row contains column titles
- Rows with the same email will create separate respondents
- Link imported respondents to the research exclusively

IMPORTED FILE PREVIEW

Column 1	First name	Joeri	Joeri	Joeri
Column 2	Name	Minnen	Minnen	Minnen
Column 3	Email	Joeri.Minnen@vub.be	Joeri.Minnen@vub.be	Joeri.Minnen@vub.be
Column 4	Username	demotest0001	demotest0002	demotest0003
Column 5	Initial password	demotest0001	demotest0002	demotest0004
Column 6	Language	en	nl	fr
Column 7				

Mapping progress

Cancel Continue

The Respondent Flow: individual progress



List of respondents ²

CROESS HBS study

Search: enak3

First name ¹	Last name ¹	User name ¹	Email ¹	Actions
Enak	Cortebeek	enak3	enak.cortebeek@hbits.io	

Showing 1 results

Store description: Delhaize

Store category: supermarket

Store location: be

Kind of expense: private expense, % professional use: 100

Payment method: expenses paid with creditcard

Expense items

Name of expense item: S. Pellegrino 6x1L

Type of expense item: 0122100 - Mineral water and drinking water from containers, e.g. natural mineral water, soda water

Return or expense item	Price	Discount	Quantity	Price
<input type="checkbox"/> return item	4,69 €	0,20 €	1	4,49 €

Keep item private
 discard item from household budget

Flow

CROESS HBS study

Activation & Course of the research

The first state when a new respondent arrives

Start: 17/08/2022 15:04
End: 29/08/2022 09:04

[Delete](#)

First survey

About the respondents household/income

Start: 29/08/2022 09:04
End: 29/08/2022 16:42

[Answers](#) [Delete](#)

Consumption Diary

Consumption Diary 1 week

Start: 29/08/2022 16:42 (1 second ago)

[Events](#) [Expenses](#) [Delete](#) [Advance](#)

Final Survey

Follow-up survey after Diary

Finish

[Close](#)



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What is MOTUS?
Architecture

NTTS satellite event
6/3/2023

Privacy by design

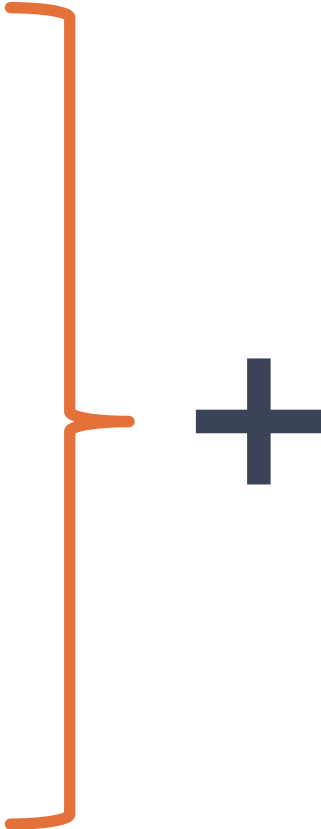
Abc!
123*_



Password requirements

Access rights

Data storage



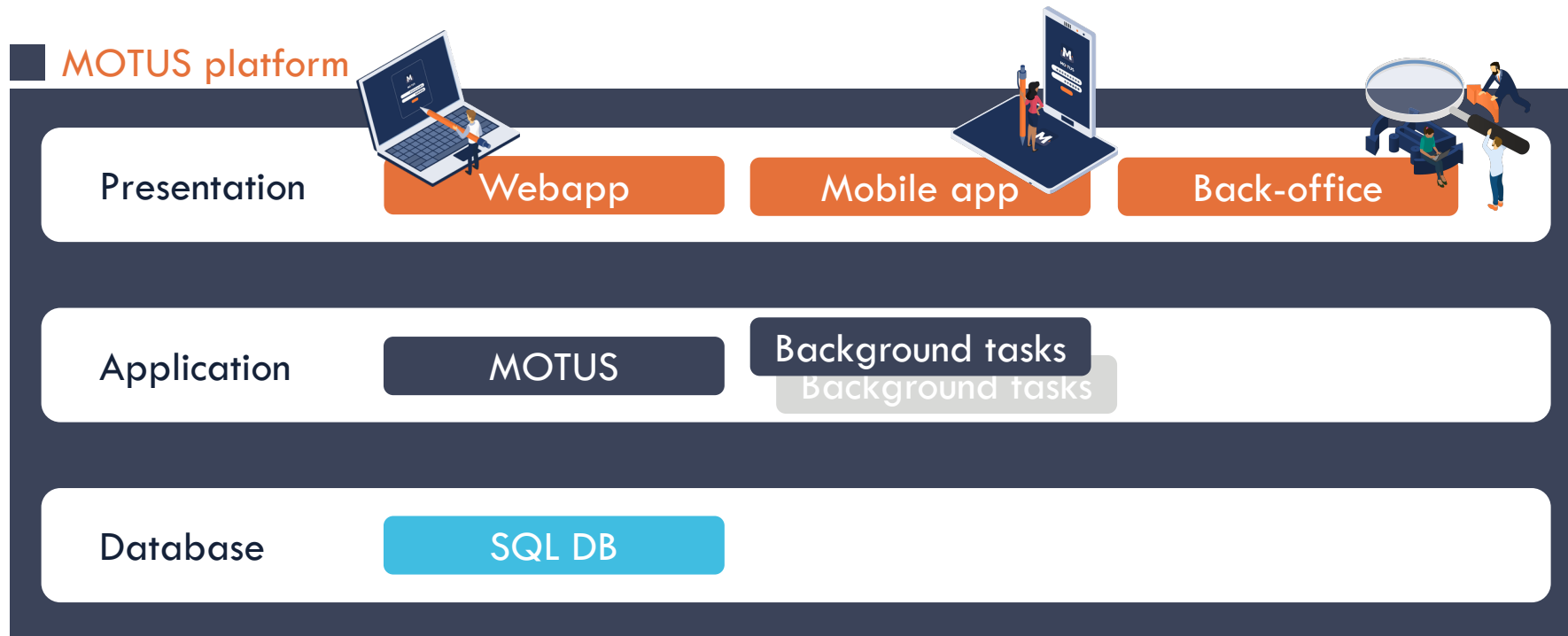
Legal

Our full privacy declaration

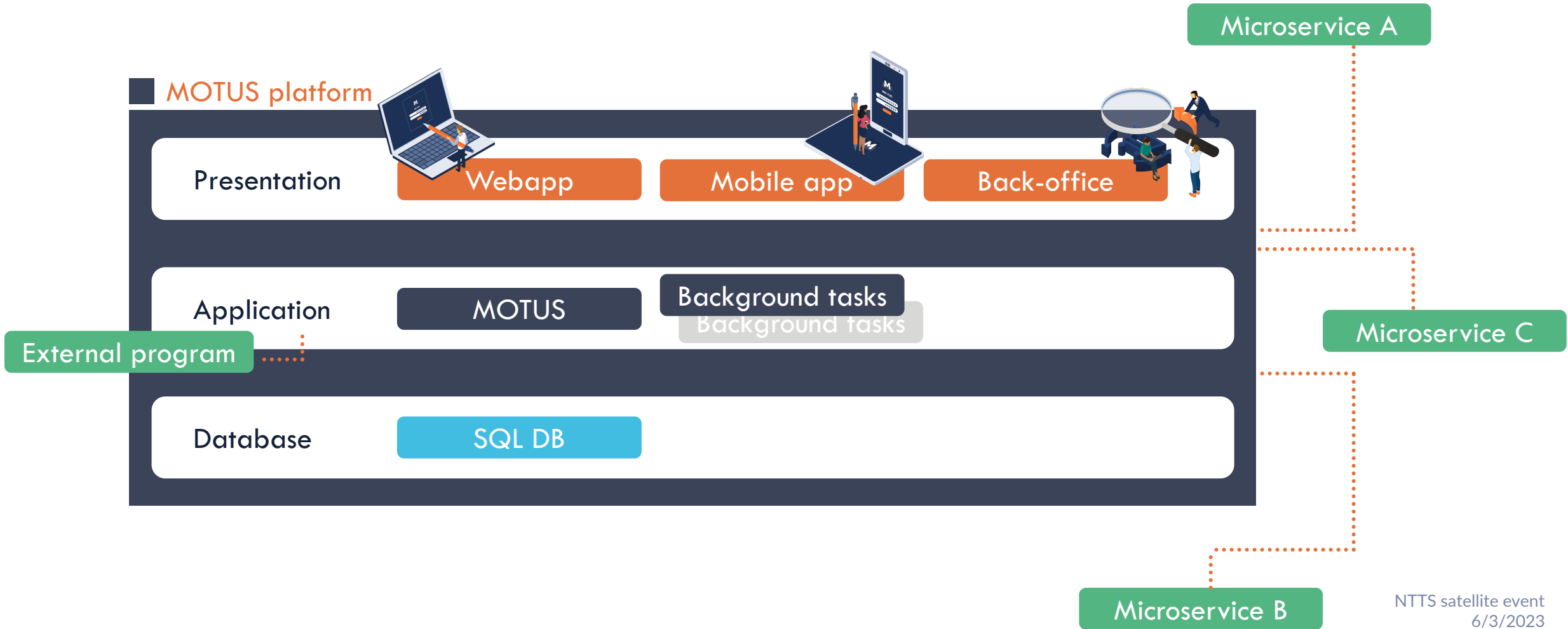
1. Introduction to the Privacy Policy MOTUS	+
2. Data controller	+
3. Scope and acceptance of this privacy statement	+
4. Collection of data	+
5. Children's personal data	+
6. Purpose of data collection	+
7. Data storage	+
8. Data recipients	+
9. Data retention period	+
10. Rights with regard to personal data	+
11. Further questions	+
12. Compliance with privacy legislation and complaints	+



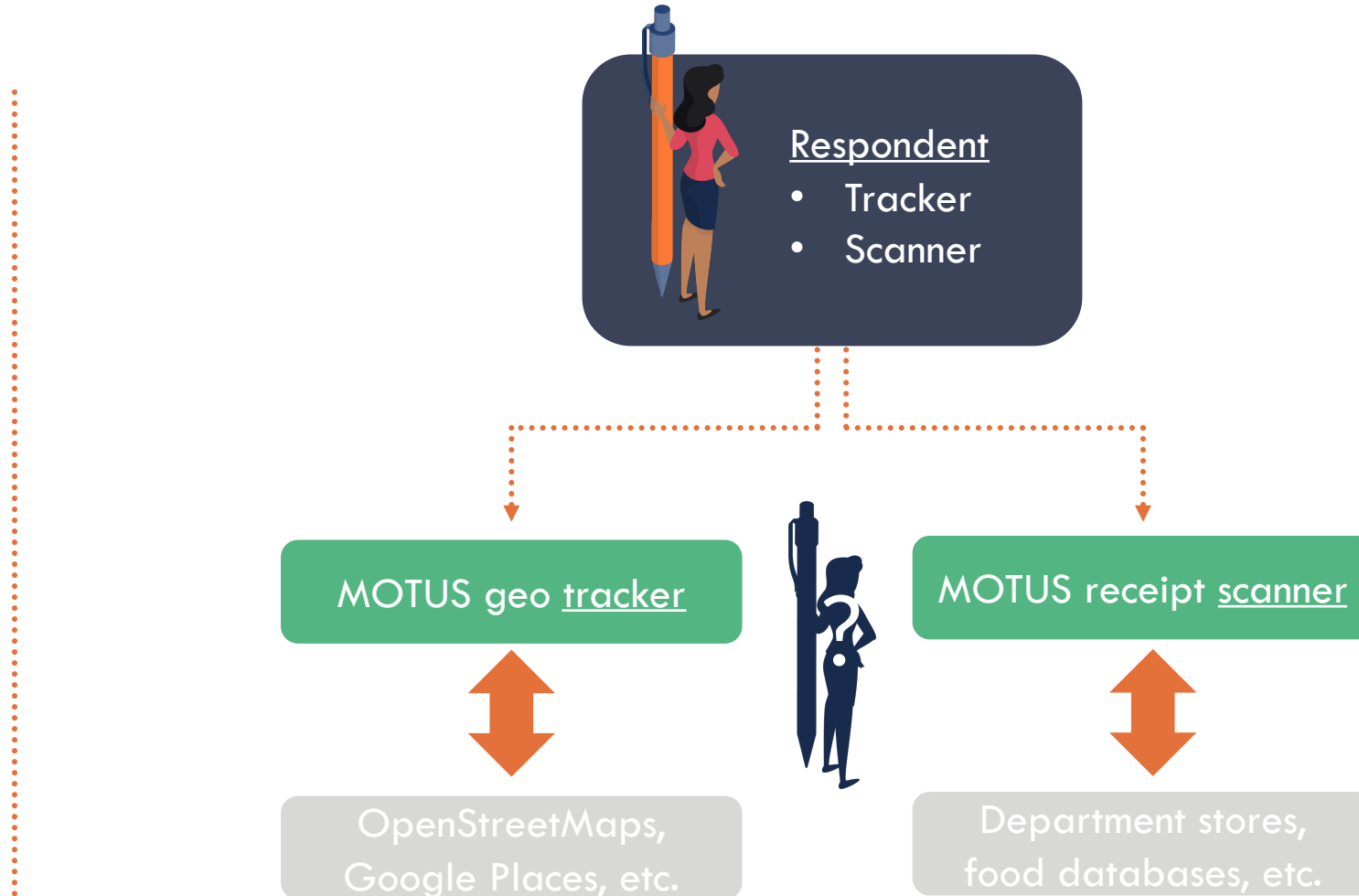
MOTUS Platform



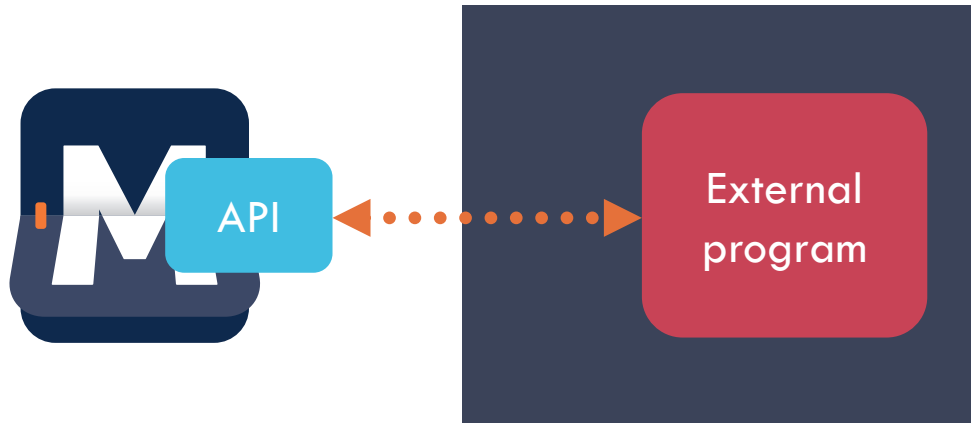
MOTUS Platform



MOTUS Platform – Microservices / Privacy



MOTUS Platform: REST API connector



127.0.0.1:8000/api/documentation

Researches

Endpoints with all research information

- GET `/researches` List with researches
- GET `/researches/{research}` Single research
- GET `/researches/{research}/respondents` All respondents for a research
- GET `/researches/{research}/surveys` All surveys for a research
- GET `/researches/{research}/diaries` All diaries for a research

Respondents

Endpoints with all respondent information

- GET `/respondents/{respondent}` Single respondent
- GET `/respondents/{respondent}/survey/{state}` Get survey answers
- GET `/respondents/{respondent}/diary/{state}` Get diary entries

Surveys

Endpoints with all survey information

- GET `/surveys/{uuid}` Single survey

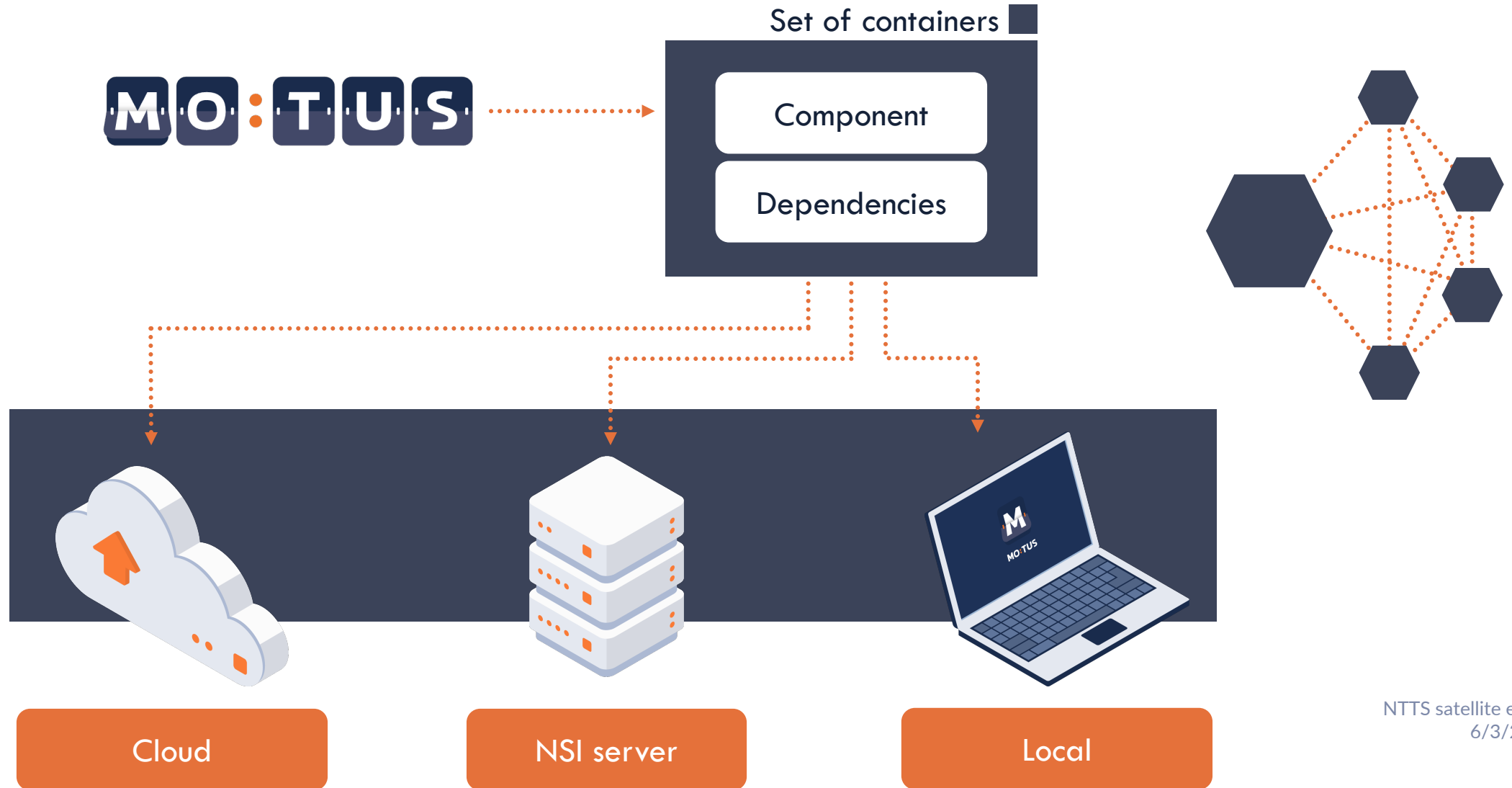
Diaries

Endpoints with all diary information

- GET `/diaries/{uuid}` Single diary

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MOTUS Platform: Shareability



MOTUS Platform: Shareability



.. Contact details

hbits CV

Joeri Minnen – Managing Director
Joeri.Minnen@hbits.io

Eurostat - ESTAT

Eniel Ninka
Eniel.NINKA@ec.europa.eu

<https://croessbacher.motusresearch.io>

Vrije Universiteit Brussel – Research Group TOR

Theun-Pieter van Tienoven
Theun-Pieter.van.Tienoven@vub.be

Statbel

Patrick Lusyne
Patrick.Lusyne@vub.be

Destatis

Joël Van Hoorde
Joel.VanHoorde@destatis.de

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:
Practical session
Information

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6/3/2023

... into the back-office yourself - with support



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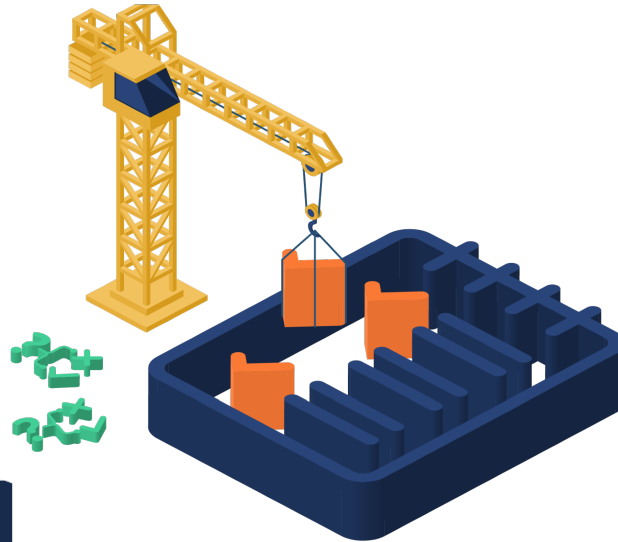
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6/3/2023

Groups definition

- 5 to 6 groups of max. 8 people
 - TUS
 - HBS
- **Goals**
 - To get an idea/impression
 - To explore the modularity of MOTUS
 - To ask questions
 - To inform about ...
- **Group entrance**
 - Full entrance
 - Login: testgroupX@motusbuilder.io
 - Password: NTTTS_groupX
 - Loop X: 1-10

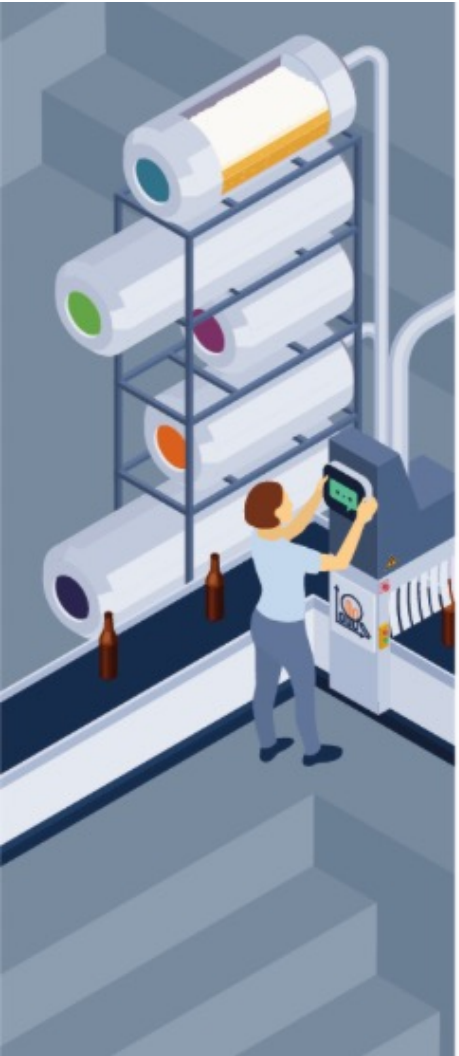
Usefull information

- **OneDrive link with content information**
 - Folder
- **Entrance to MOTUS demo environment**
 - Back-office: <https://demo1-backoffice.motusdemo.com/>
 - Web app: <http://demo1-frontoffice.motusdemo.com/>
 - iOS app: <https://apps.apple.com/us/app/id956934466>
 - Android app:
<https://play.google.com/store/apps/details?id=be.byteworks.motus>
- **Supporting website:**
 - <https://www.motusresearch.io>
- **Guidelines in development**
 - <https://bit.ly/HBSDiaryBuilderMOTUS>



Find the slides on:

<https://croessbacher.motusresearch.io>



Ingredients: malt, hops, secret herbs.
Brewed by Craft Brewery Sweynbeer BV for hbits CV
Powered by **MOTUS**

CROESSBäcker
Statistics. Fermented.



33cl
7% Alc

