

# Lessons and prospects from the Massive Open Online Course “Managing building adaptation” for real estate education

Dr Erwin Heurkens, TU Delft | ERES 2018 Conference, Reading

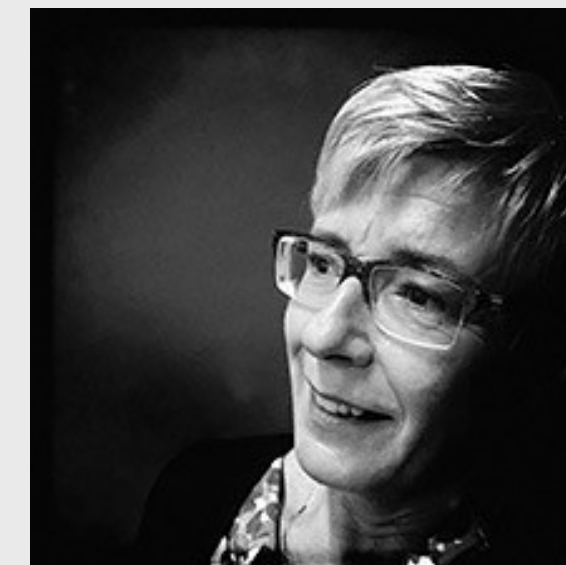
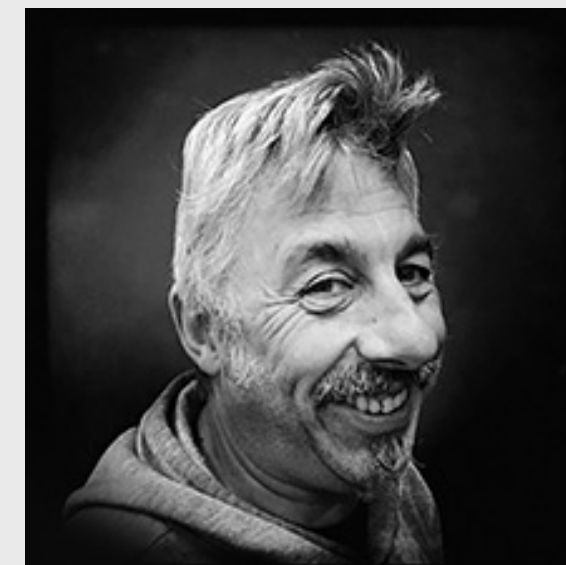




# Course overview – Course team



Many more people from external parties such as **Extension School & New Media Centre**, were involved in some way.





# Course overview – Learning objectives

## Students learn to:

- *Understand* building adaptation management as a cyclical process;
- *Identify* various sustainability challenges that occur in building adaptations;
- *Distinguish* between multiple actor perspectives and interests related to building adaptation;
- *Apply* project management tools that assist in making decisions about building adaptation;
- *Translate* design concepts into practical solutions for sustainable building adaptation

**Managing Building Adaptation**  
*A Sustainable Approach*

**TU Delft**

**course syllabus**

**table of contents**

p2 Introduction & learning objectives

p3 Course overview

# Course overview – Course structure

Module-based using  

- Real estate life cycle as a basis
- 7 modules, divided in topics
- 1 new module opened every week
- 1 opening module, introduction module, 4 thematic modules & 1 synthesis module
- 4-6 hours of study per module





# Course overview – Learning activities

## Various forms

- *Video lectures*  
in which the topic is introduced
- *Case videos*  
in which the topic is illustrated with real life case, project or interview
- *Learning materials*  
document and internet links that support the videos and assignments
- *Assignments*  
in which knowledge on a topic is tested
- *Feedback videos*  
in which the course team reflect on student work

**Managing Building Adaptation**  
*A Sustainable Approach*



**Reader Module 2: Contents**

Schieblock building .....	2
Facts and functions .....	2
Initiative and development context .....	2



# Course content – Case videos



## Adaptive Reuse Initiation



<https://www.youtube.com/watch?v=OKYKNxSrarM&ecver=1>



# Course content – Video lectures



## Urban Development Policies & Markets

A YouTube video player interface. The video shows a man in a blue blazer standing next to a large screen. The screen displays a slide titled "Real estate markets" with a list of characteristics and a photo of a city skyline by a river. The video player controls at the bottom show a progress bar at 4:40 / 7:18, speed at 1.0x, and various icons for volume, HD, and subtitles. The YouTube logo is visible in the bottom right corner of the video frame.

**Real estate markets**

Characteristics:

- Housing market
- Office market
- Retail market
- Supply and demand
- Price development

4:40 / 7:18    ▶ Speed 1.0x    🔊    HD    🗒    📄    🗣

By doing so, you can determine the possibilities for a building adaptation initiative. ▲

Another important contextual factor that you have to take into account

when adapting a building is real estate markets.

Real estate is property comprised of land and the buildings on it.

Real estate markets can be divided in the housing, office or retail market.

Real estate markets are all about supply and demand, and price development.

**When adapting the building you determine which function, like offices or housing**

could possibly match supply with demand.

For example, take the office market in Rotterdam.

For years, there has been a trend of increasing office vacancy rates.

In 2016, 19,3% of office buildings were empty.

On the one hand this is caused by the increasing supply of offices,

as new office buildings were constructed in the city. ▼

© ⓘ Ⓢ Ⓞ Some Rights Reserved

🎬 Video ▼

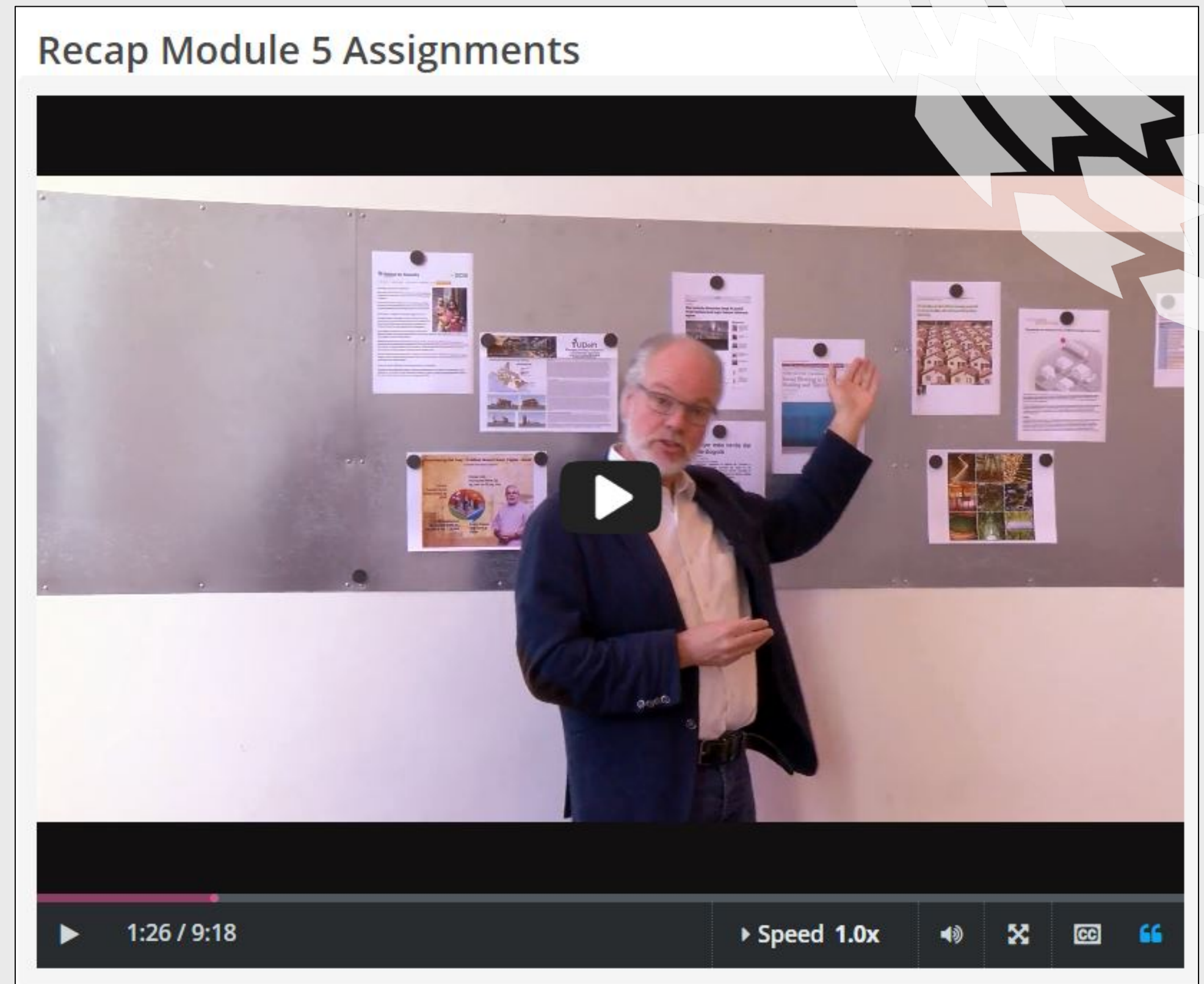
📄 SRT Subtitles ▼

Other ▼

STAFF DEBUG INFO



# Course content – Feedback videos

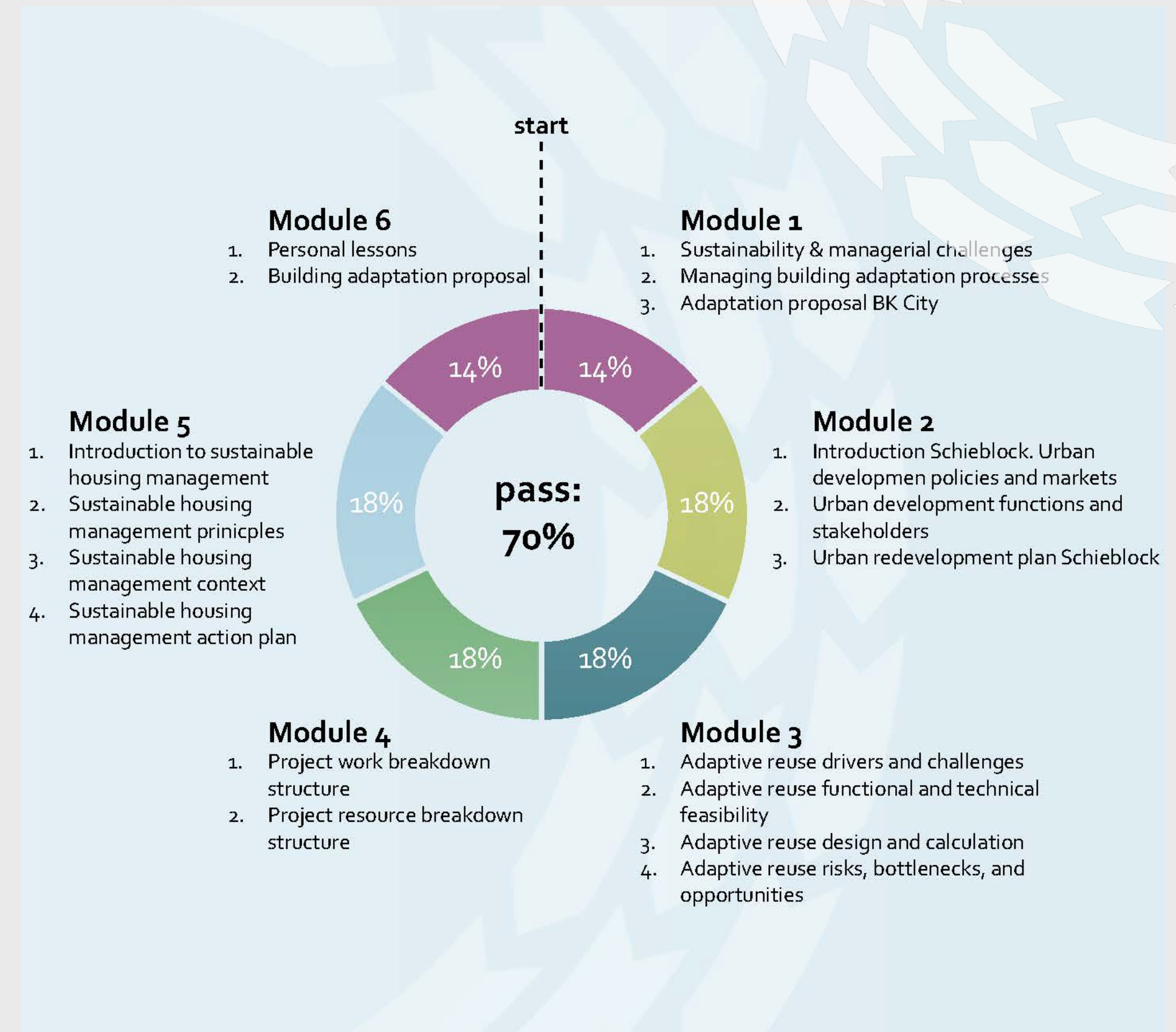




# Course overview – Assessment structure

## Structure/grading

- 6 out of 7 modules graded
- Core (thematic) modules 18% each (2-5)
- Intro and Recap modules 14% each (1&6)
- 70 of 100% of points necessary to pass
- edX grade calculation based on sum of obtained points





# Course overview – Assignment & assessment forms

## Various assignments

- *Poll questions*  
compare own ideas with other learners'
- *Quiz questions*  
check your understanding through multiple-choice questions
- *Drag and drop questions*  
align and locate certain answers to predefined boxes (true or false questions)
- *Sketchdrive assignments*  
visuals with short written motivation, giving feedback to other learners' visuals
- *Self-assessments*  
scoring/grading own work based on a rubric
- *Check lists*  
list of work completed

Good to see you on the Sketchdrive page for Module 5!

Upload your assignments for this module here, with the tag: Assignment 5.3 or Assignment 5.4B. For the full assignment descriptions, we would like to refer you to the edX page.

For Assignment 5.3 you should upload a picture or newspaper article of a Sustainable housing management Challenge in your country/region/city.

For Assignment 5.4B you should upload your Multi-year Action Plan and Illustrative image(s) for your Sustainable Home (actions).

After you have uploaded your assignments, don't forget to:

- write the Motivations for your articles and plans in both Assignments 5.3 and 5.4B (see edX for the

[show more](#)

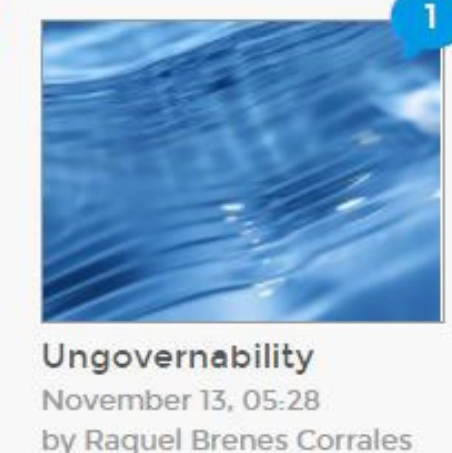
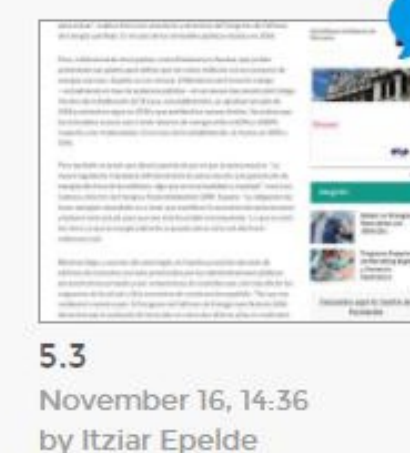
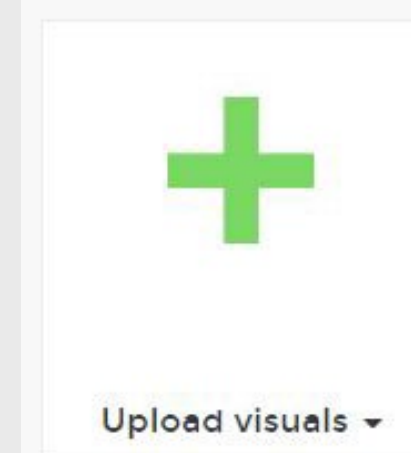


5.3

55 visuals

visuals per page 39 ▼

← Previous 1 2 Next →

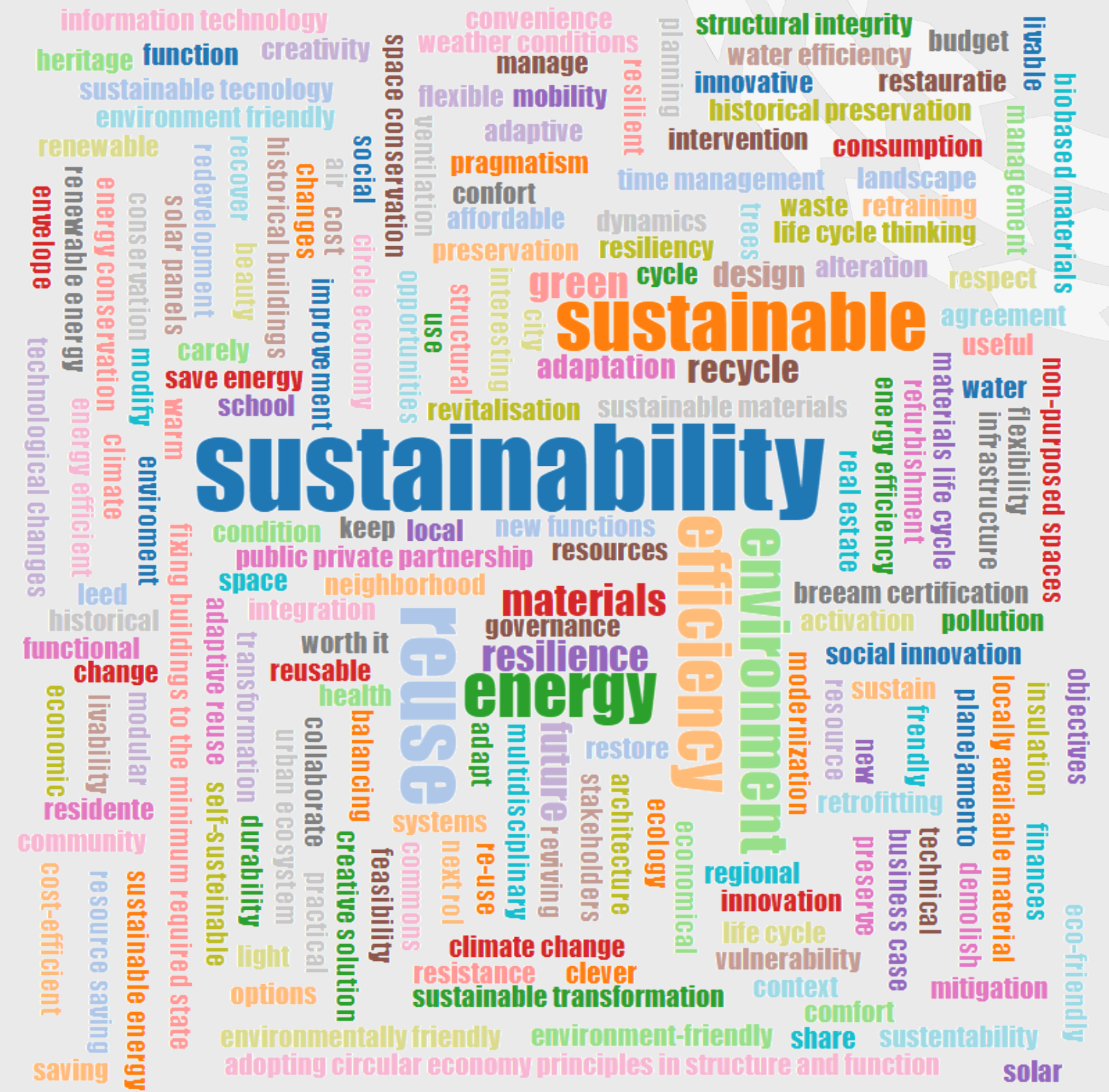
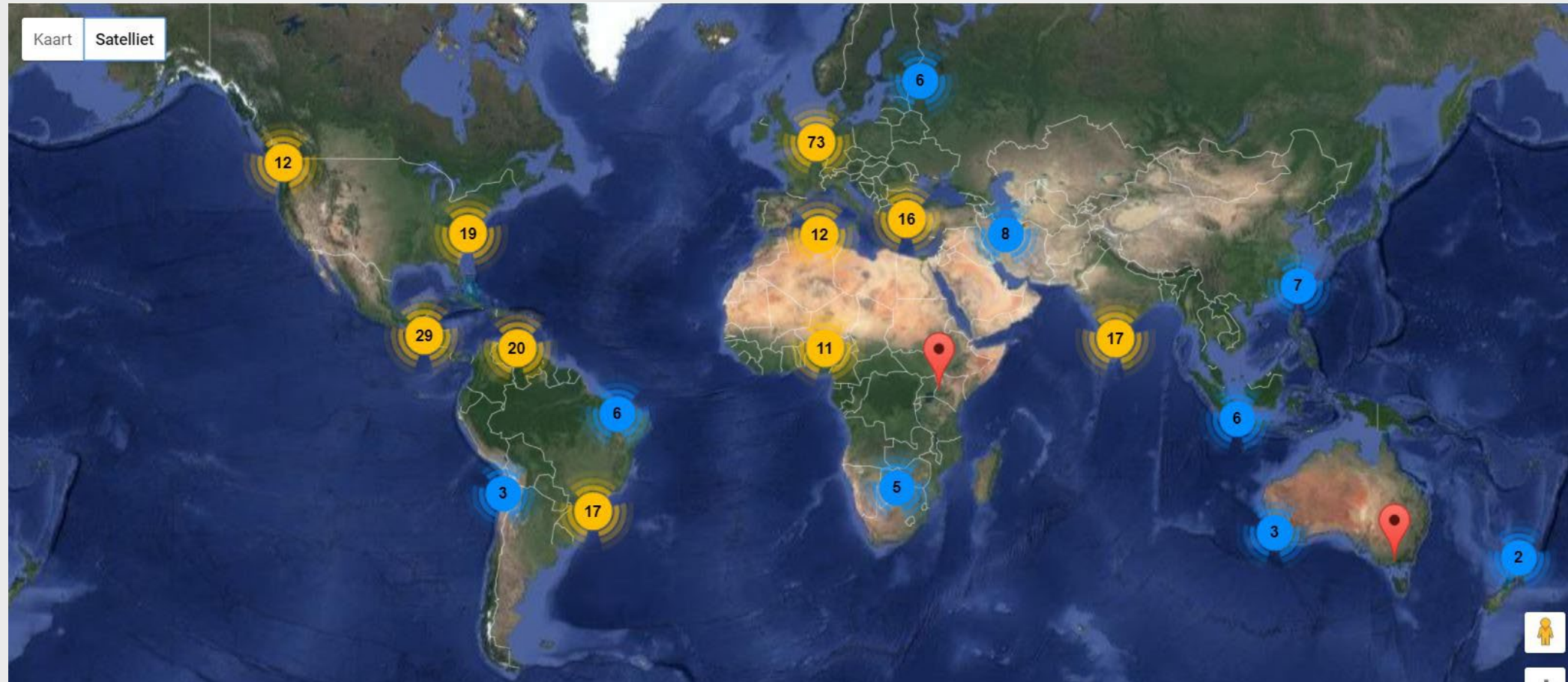




# Course content – Module o

# Welcome!

- Getting acquainted with the platforms, course structure, each other
- Worldmap & Word cloud

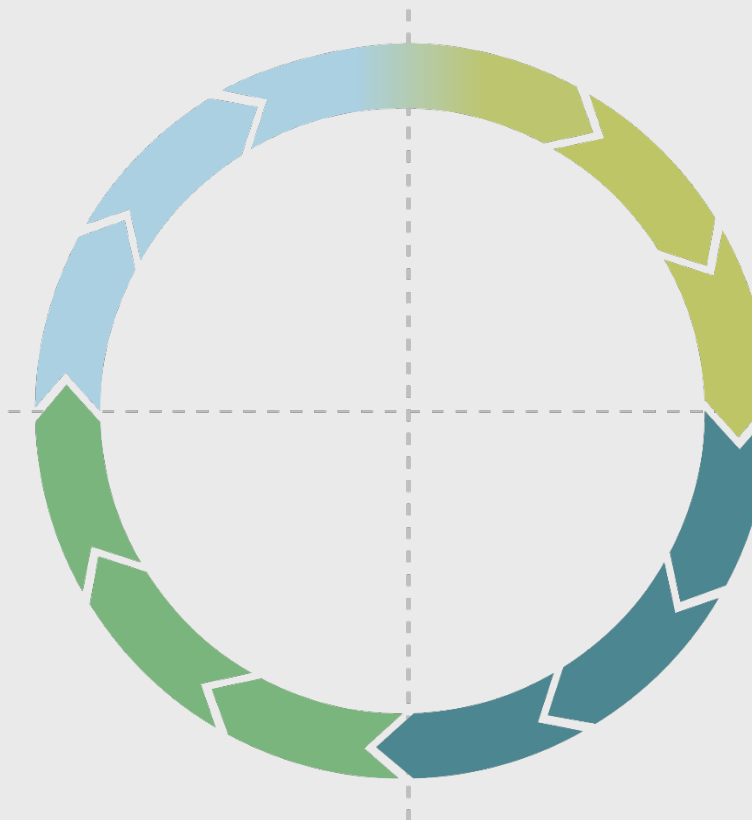




# Course content – Module 1

## Introduction to MBA

- Managerial & sustainability challenges
  - Newspaper article upload
- Managing building adaptation processes
  - MBA basics – intro to process cycle
- Case: BKCity – Quick building adaptation proposal
  - On-site video
  - Creative visualisation upload



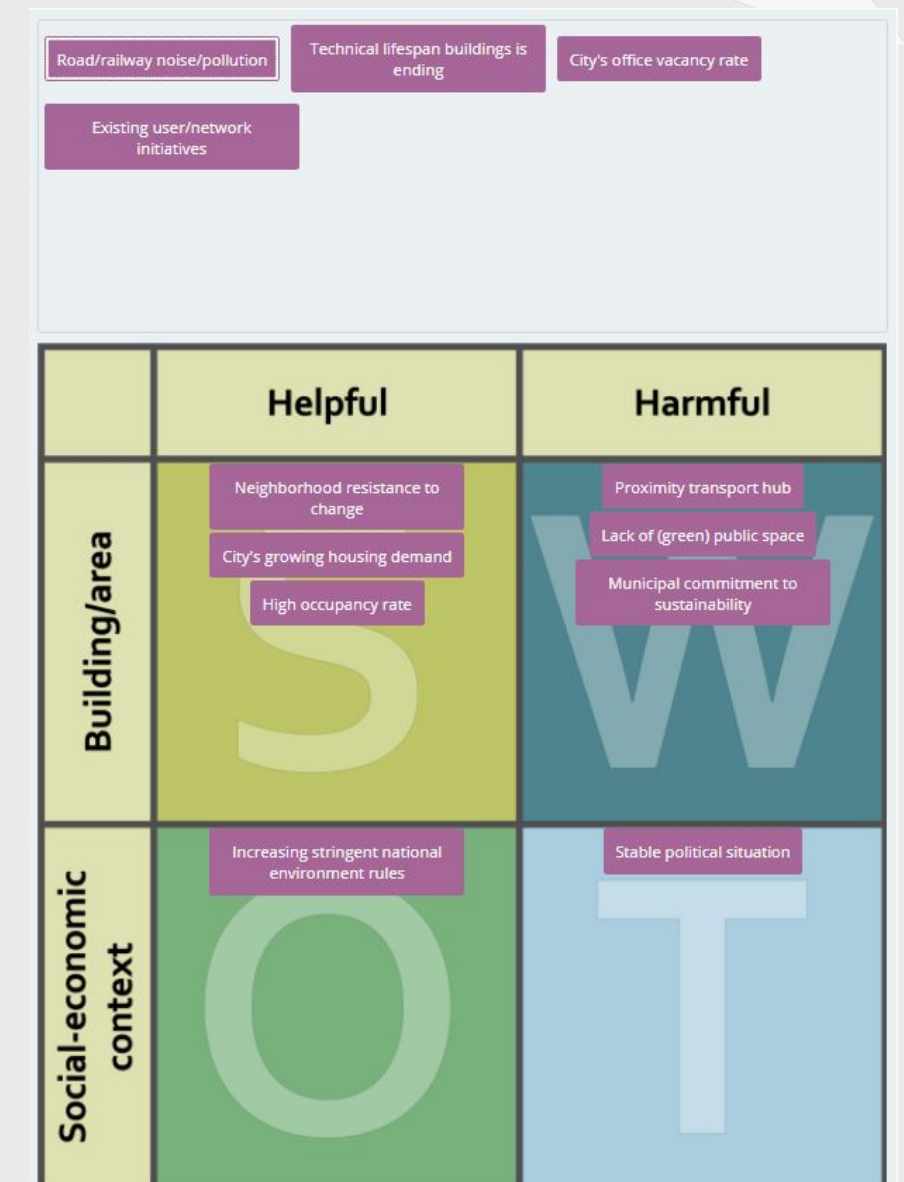
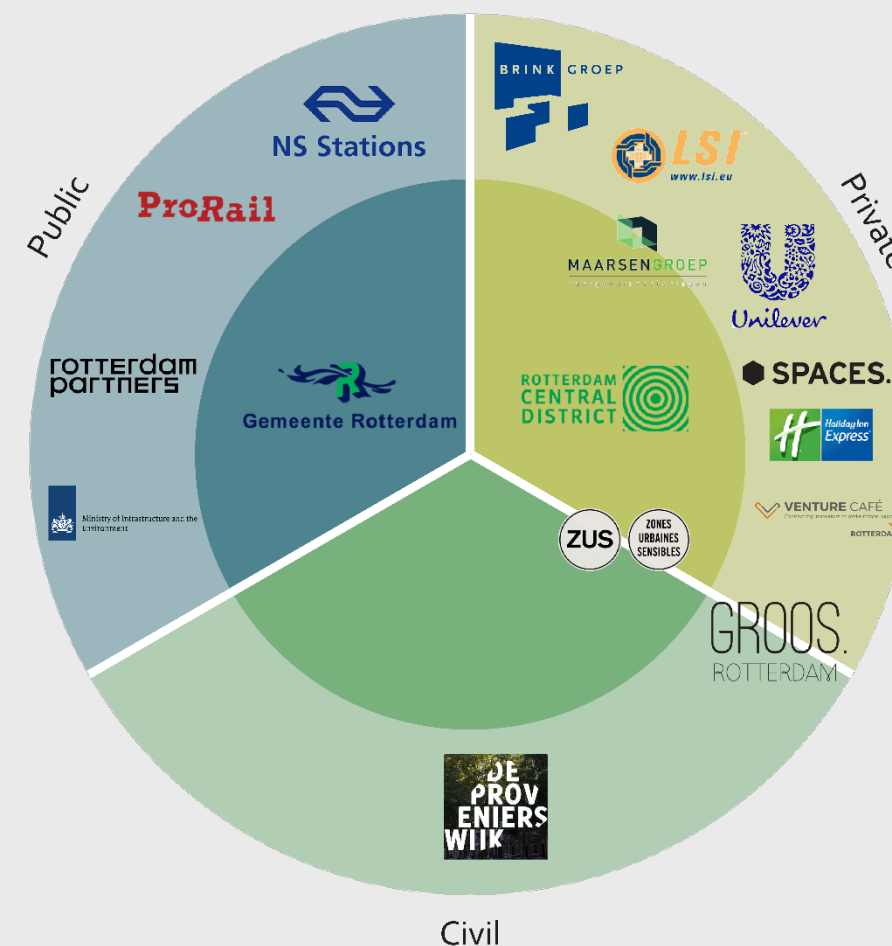


# Course content – Module 2

## Initiative Phase – Urban Development Management

- Case introduction
  - Schiekadeblock on-site video
- Urban development policies & markets
  - Learn to use policy documents and analyse market demands
- UD functions & stakeholders
  - Drag & drop to learn to perform stakeholder analysis & SWOT

- Urban redevelopment plan
  - Use tools from module to make a redevelopment plan for the Schiekadeblock area



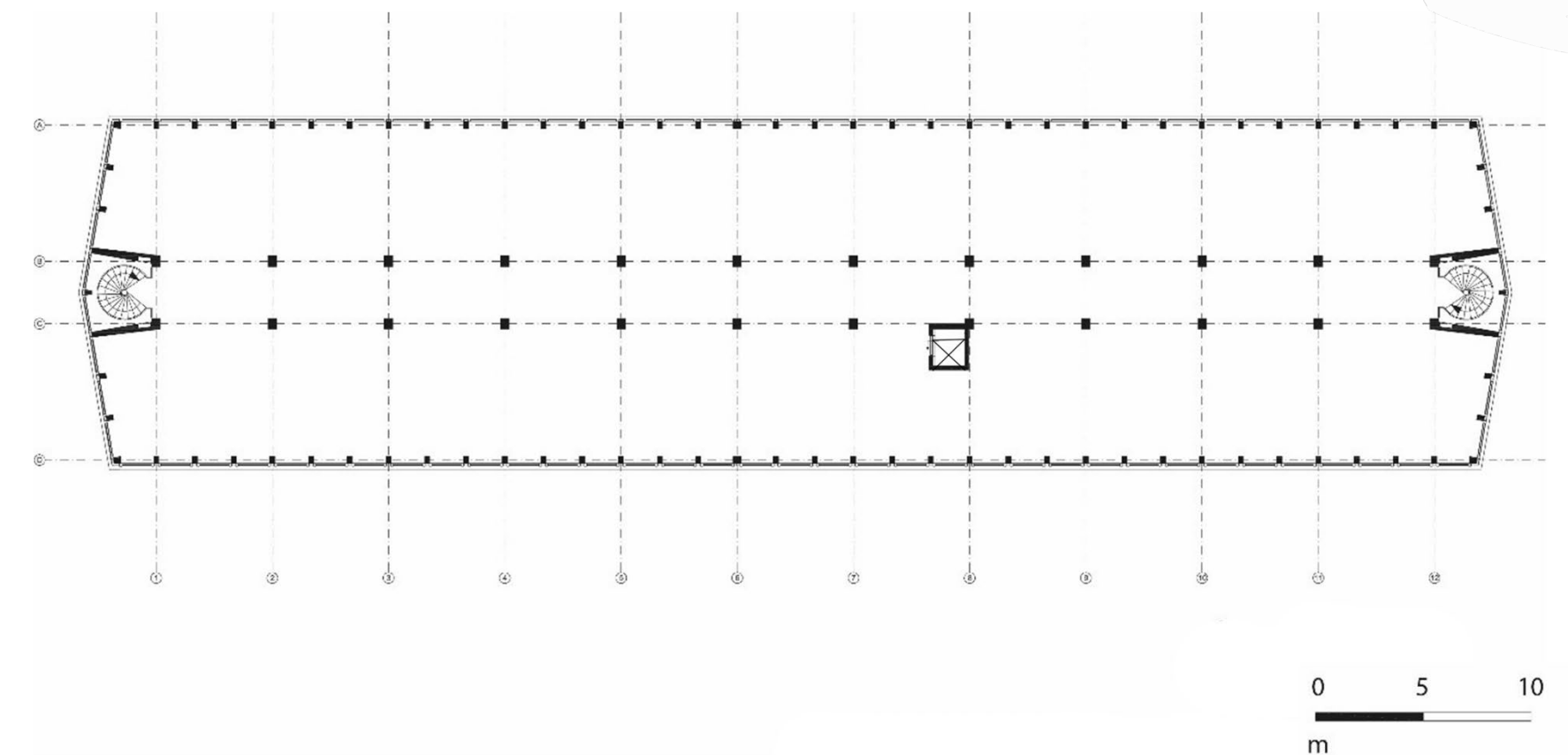


# Course content – Module 3

## Design & Feasibility Phase – Real Estate Management

- Adaptive Reuse drivers and challenges
- AR functional and technical feasibility
  - Conversion Meter Exercise
- AR design and calculation
  - Creative: Draw floorplans
  - Calculate with Highest & Best use method
- AR Reuse risks and solutions
  - Risk identification and processing in Floorplan

Westplantsoen Delft, typical floor plan existing building  
Scale= 1:250 - A4 paper size





# Course content – Module 4

## Construction Phase – Project Management

- Project work breakdown structure
  - Learn to assign tasks to project phases
- Project resource breakdown structure
  - Learn to link tasks to different resources/actors through a Responsibility Assignment Matrix

MOOC Module 4 ANSWERS Assignment 4.2B - Compatibility Mode - Excel

Responsibility Assignment Matrix												
Phase:	Construction											
Resources	Tasks to be undertaken											
	Contribute to Health & Safety Strategy as required	Provide information for and contribute to contents of Project Execution Plan as required	Carry out site inspections and review against specification and construction programme (4X)	Assist design team members with responses to site queries related to co-ordination or integration	Manage implementation of Handover Strategy	Review and update Project Execution Plan as required	Update Health and Safety Strategy	Review 'As Constructed' Information	Manage Change Control process	Co-ordinate site inspections	Prepare Construction Information	
4												
5 All Resources (Roles) (2 tasks)	X	X										
6 Client and/or Client Advisor (1 task)												
7 Project Lead (4 tasks)					X	X						
8 Lead Designer (2 tasks)			X	X								
9 Architect (3 tasks)			X									X
10 Building Services Engineer (3 tasks)			X									X
11 Civil & Structural Engineer (3 tasks)			X									X
12 Cost Consultant (1 task)												
13 Construction Lead (1 task)												
14 Contract Administrator (3 tasks)									X	X		
15 Health & Safety Advisor (2 tasks)							X	X				
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Resource Assignment Matrix - PD   Respons. Assignment Matrix C   Description of resources   Example RAM SD

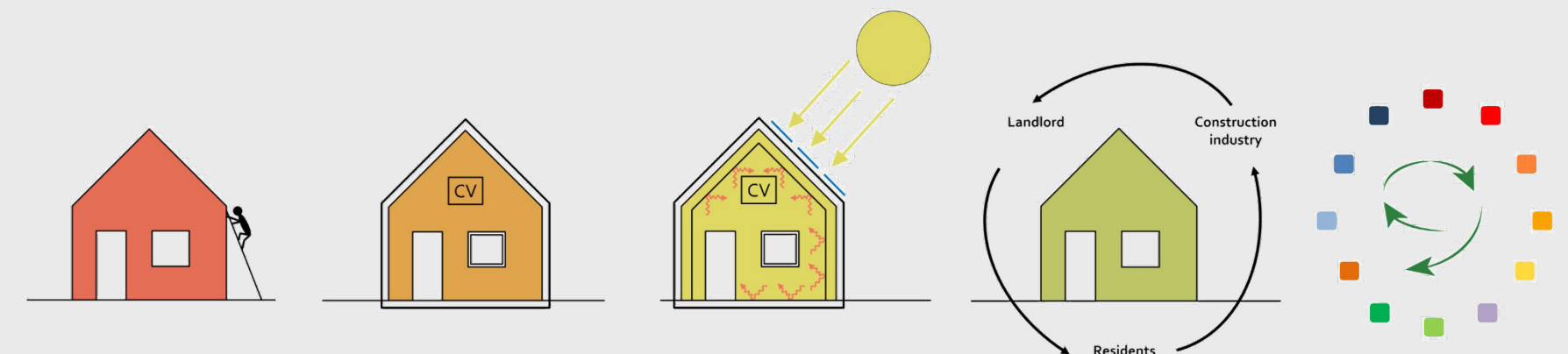
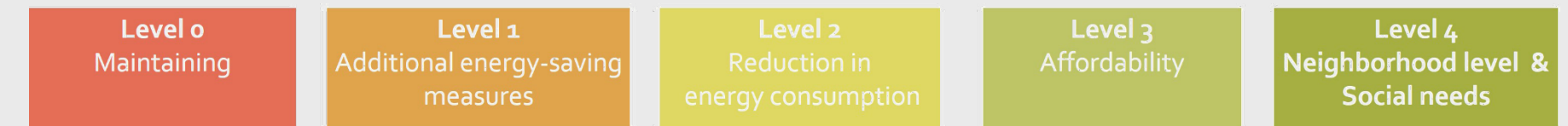
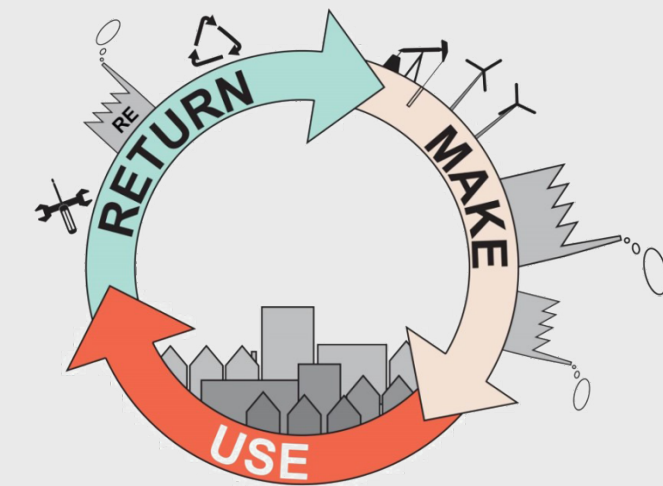
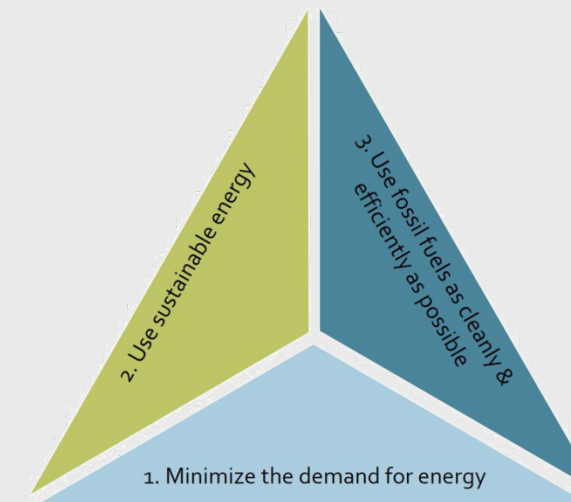


# Course content – Module 5

## Management & Use Phase – Sustainable Housing Management

- Sustainable Housing Management principles
  - SHM basics supported by interview with housing association Eigen Haard
- SHM ambitions
  - Getting acquainted with SHM ambitions levels, techniques and concepts
- SHM context
  - Learn to relate given principles to own context
  - Newspaper article upload to illustrate this

- SHM action plan
  - Survey about housing situation
  - Use results as framework to create a Multi-Year Action Plan for your own home





# Course content – Module 6

## Recap of MBA

- Personal lesson drawing
  - Inspiring concepts and ideas from peers
  - Relate to context in own country. What tools could be transplanted or be used as inspiration?
- Personal building adaptation proposal
  - Choose a few of the presented tools from the MOOC to make your own building adaptation proposal.

		Likelihood of Transfer		
		Transfer within one country	Transfer between countries with a similar system	Transfer between countries with a different system
Level of lesson-drawing	Definitions			
Inspiration	Collecting & evaluating data & information on innovative experiences & practices	LESS LIKELY	LIKELY	VERY LIKELY
Learning	Adopting the information collected & evaluated in the inspiration phase, including retrieving underlying ideas & recognizing obstacles & differences	LIKELY	VERY LIKELY	LIKELY
Transplanting	Looking at specific conditions under which the transfer of policy, instruments or other elements to another context is possible	VERY LIKELY	LIKELY	LESS LIKELY



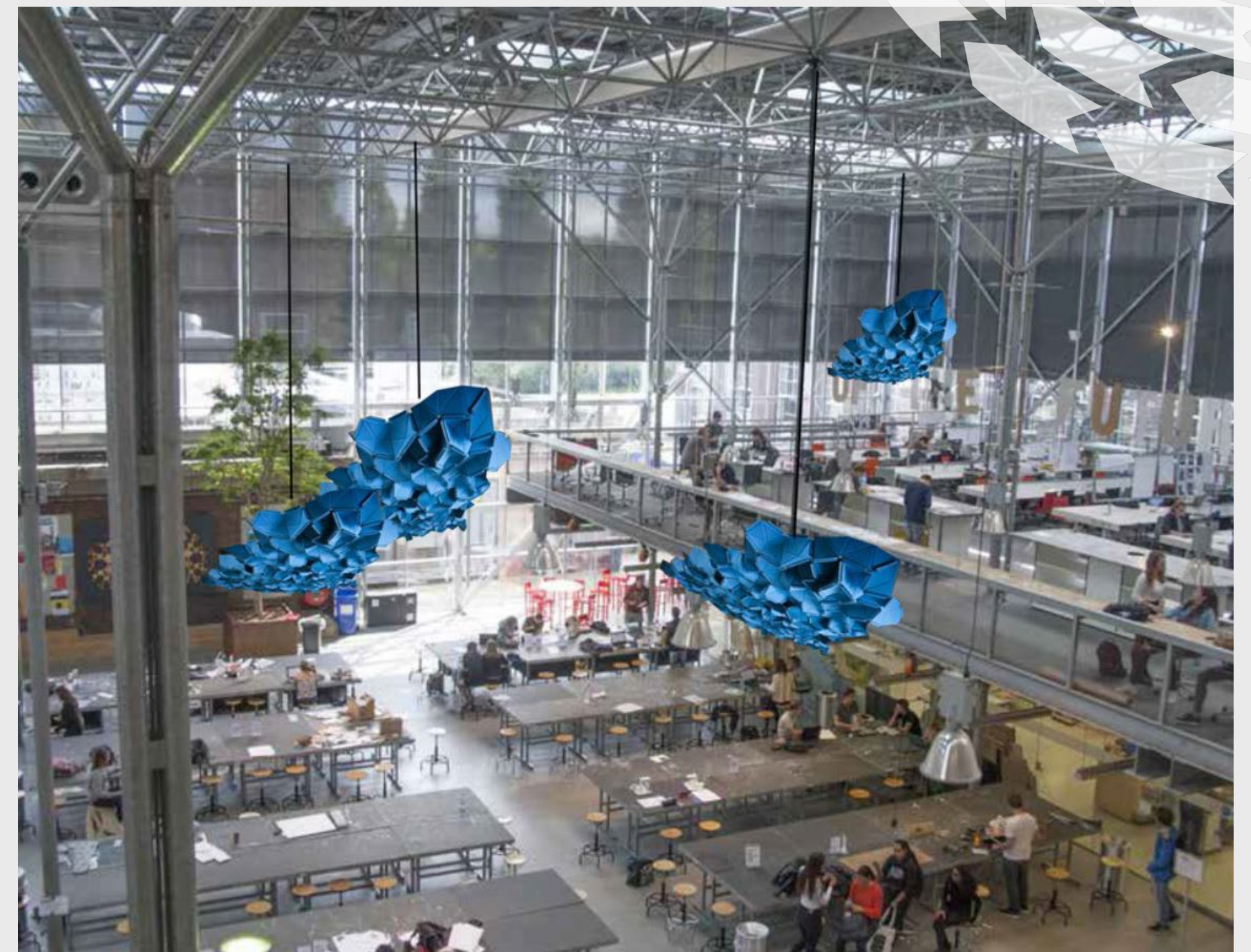


# Course content – Example student work module 1.

Module 1 – Jip Colenbrander / BK City

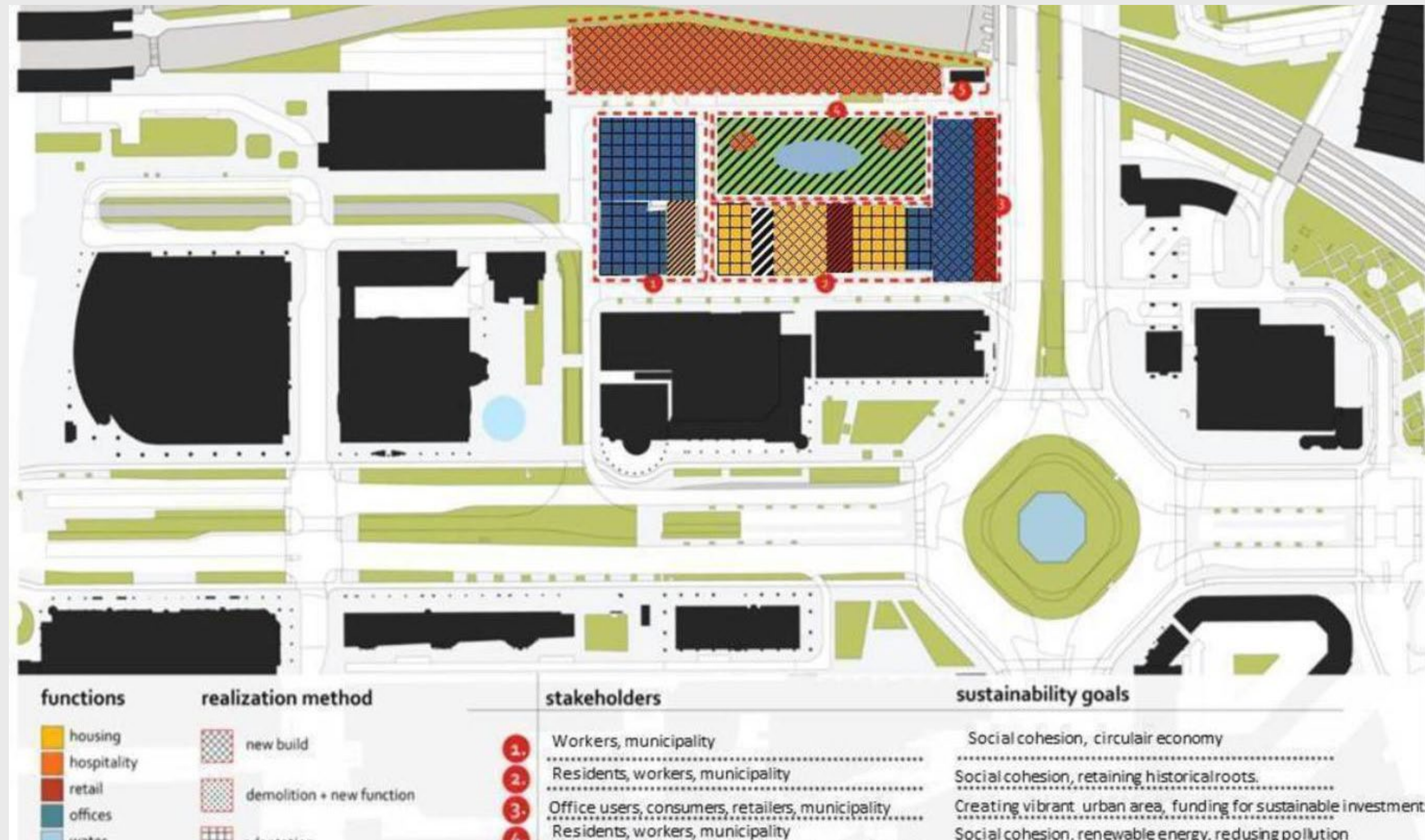


Itziar Epelde / BK City proposal





# Course content – Example student work module 2

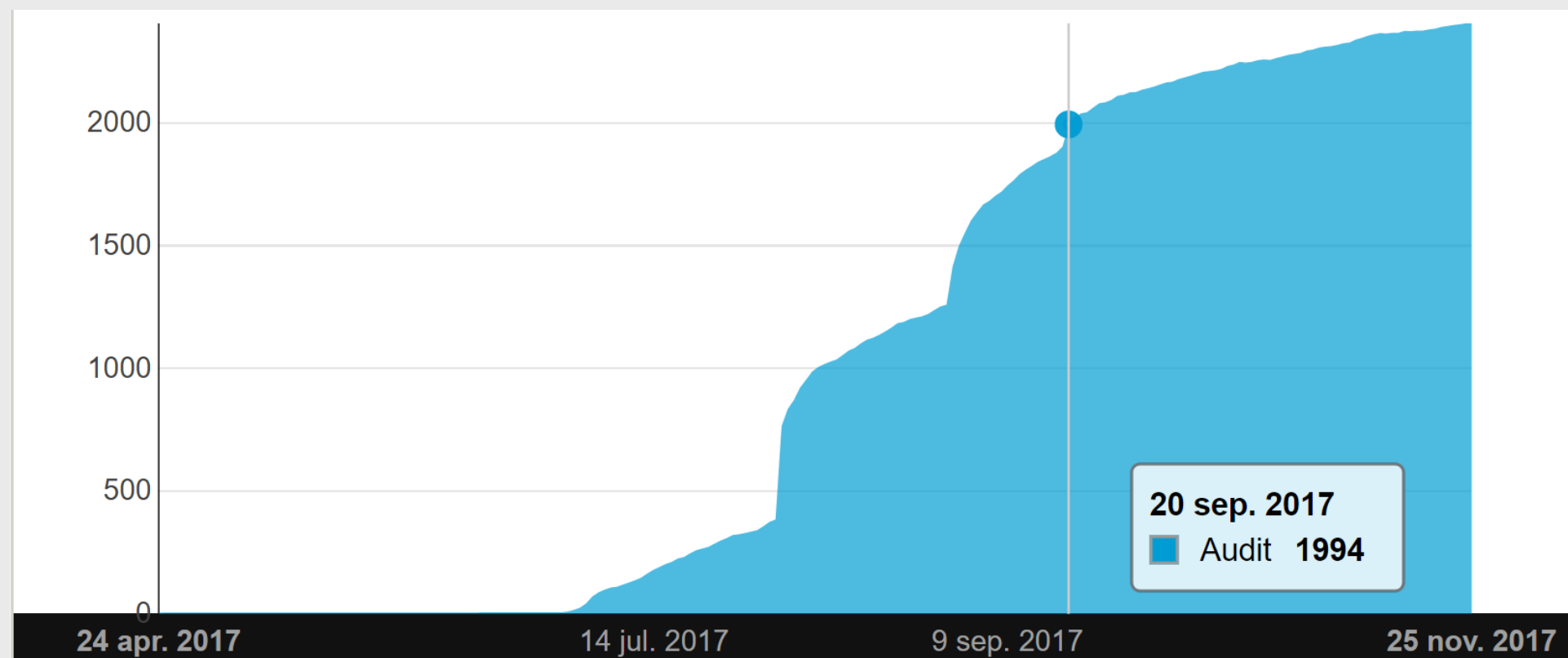


Jan Ruitenbergh /  
Schiekadeblock  
adaptation proposal

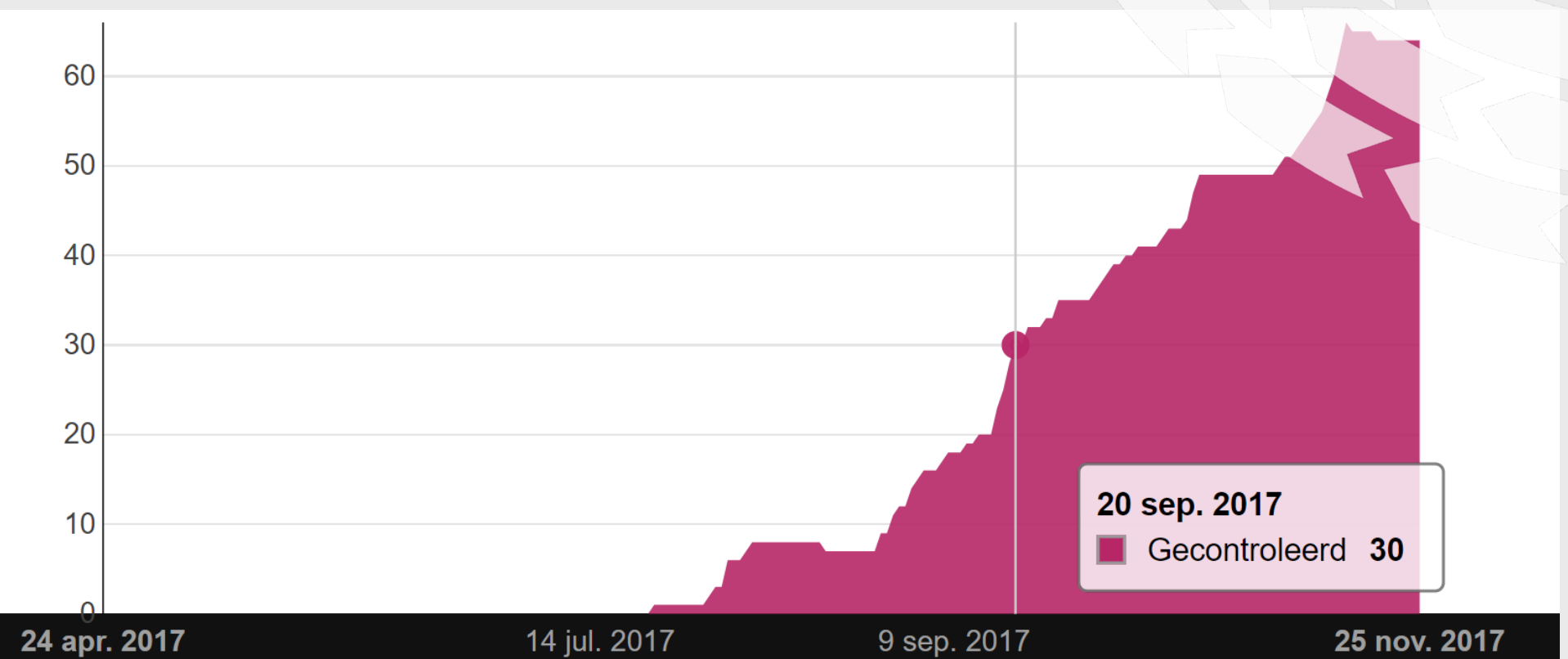


# Course evaluation – Course analytics

## Audit track enrolment (FREE)



## Verified track enrolment (49\$)



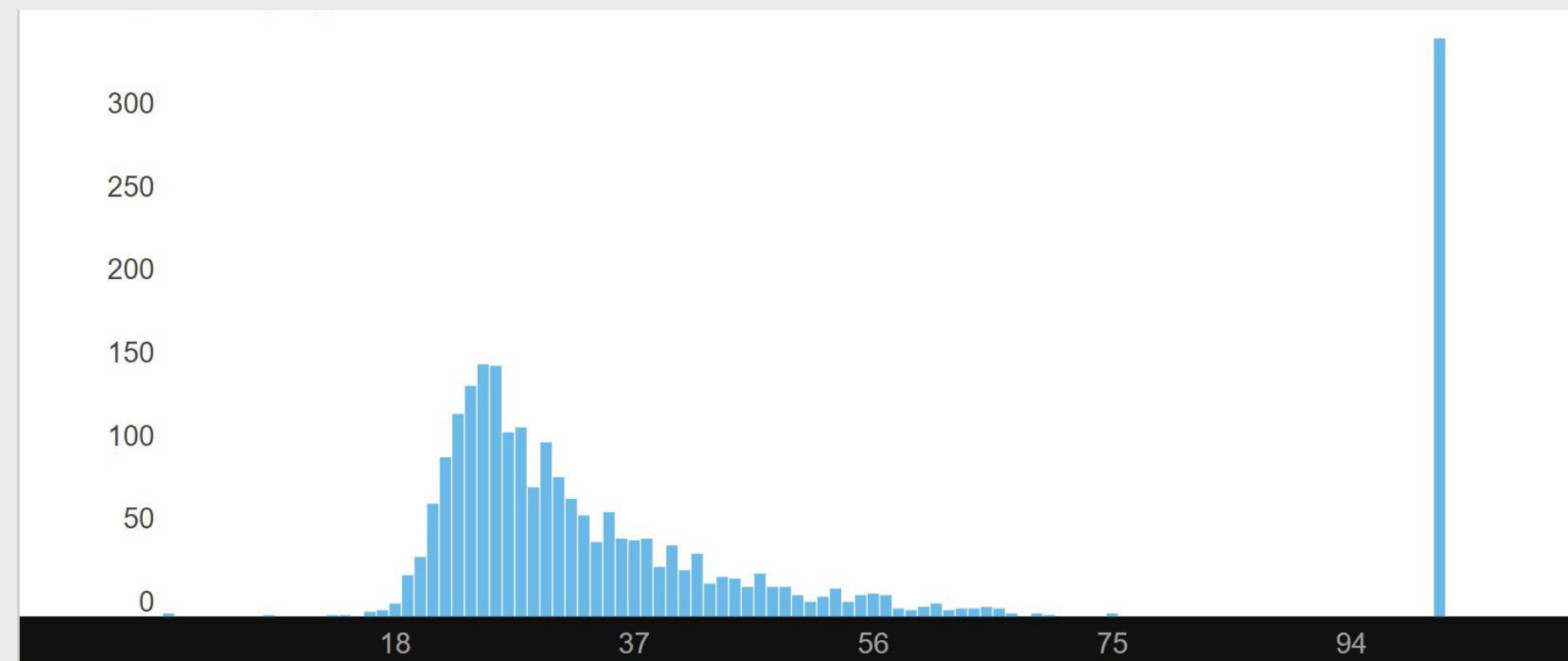
## Enrolment totals on 26/11/2017

2.645 Totaal inschrijvingen	2.470 Huidige inschrijving	25 Veranderingen sinds afgelopen week	64 Gecontroleerde Inschrijving
--------------------------------	-------------------------------	---	-----------------------------------

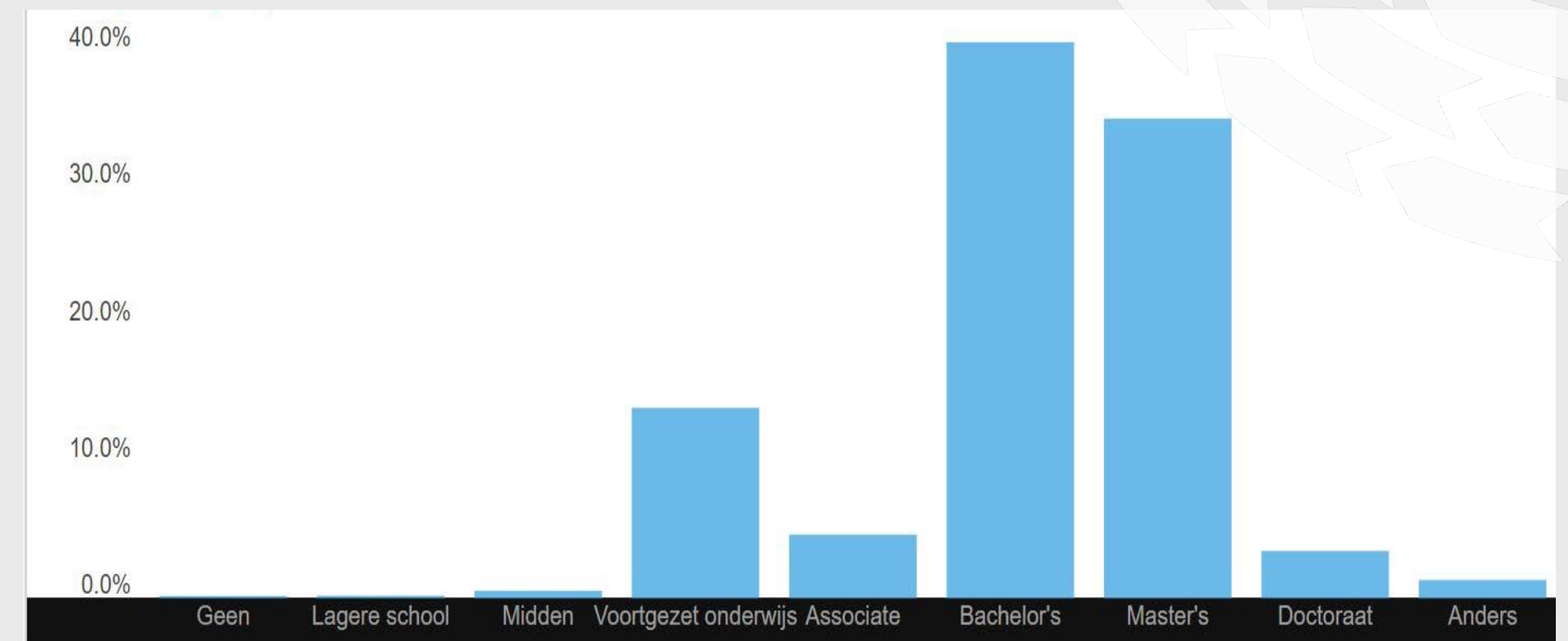


# Course evaluation – Course analytics

## Demographics



## Education level



29

Mediaan van  
leeftijd van  
leerlingen

31.0%

Learners 25  
and Under

51.6%

Learners 26  
to 40

17.3%

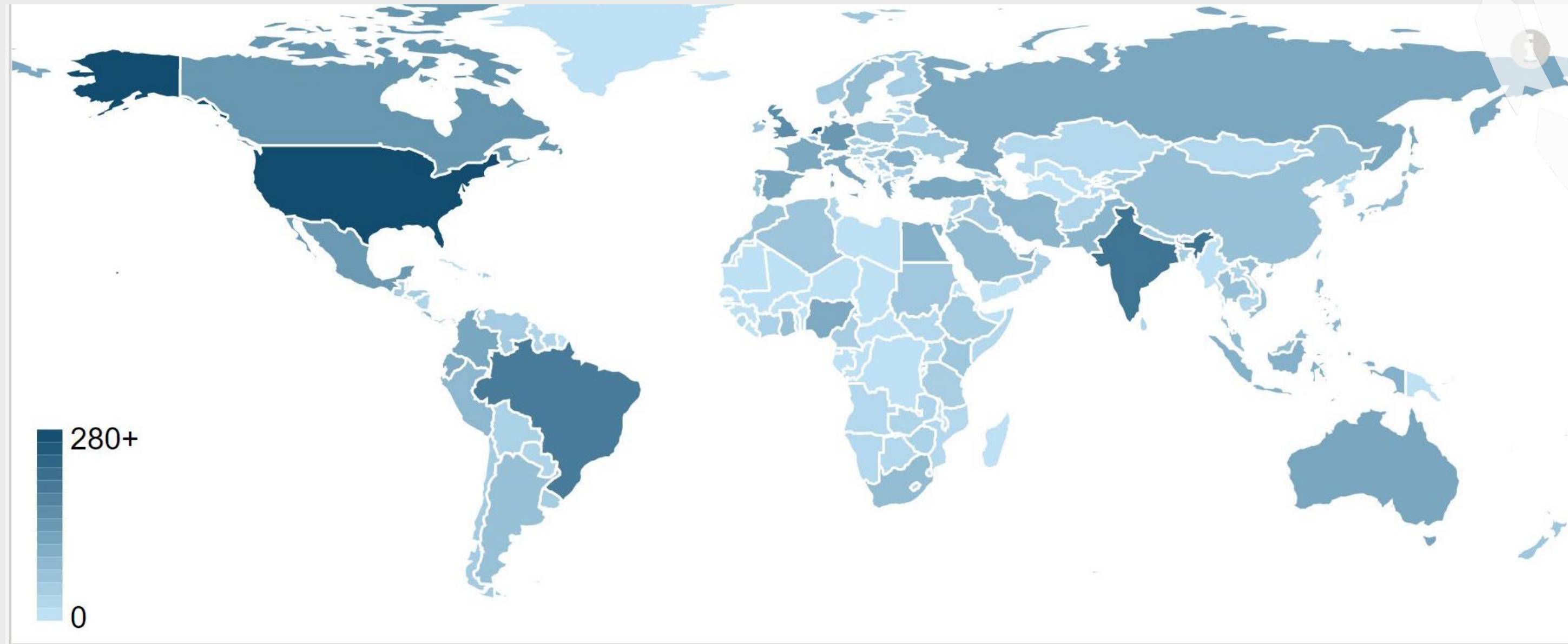
Learners 41  
and Over

Bachelor's	882
Master's	761
Voortgezet onderwijs	302
Onbekend	301
Associate	101

Doctoraat	75
Anders	29
Midden	12
Lagere school	4
Geen	3



# Course evaluation – Course analytics



Country or Region ⇅	Procent ⇅	Huidige inschrijving ▼
Verenigde Staten van Amerika	11,6%	286
Nederland	8,5%	209
India	6,2%	154
Brazilië	5,3%	132

Land Onbekend	5,0%	123
Verenigd Koninkrijk	3,7%	92
Canada	2,9%	71
Duitsland	2,7%	67
Mexico	2,6%	65
Italië	1,9%	48

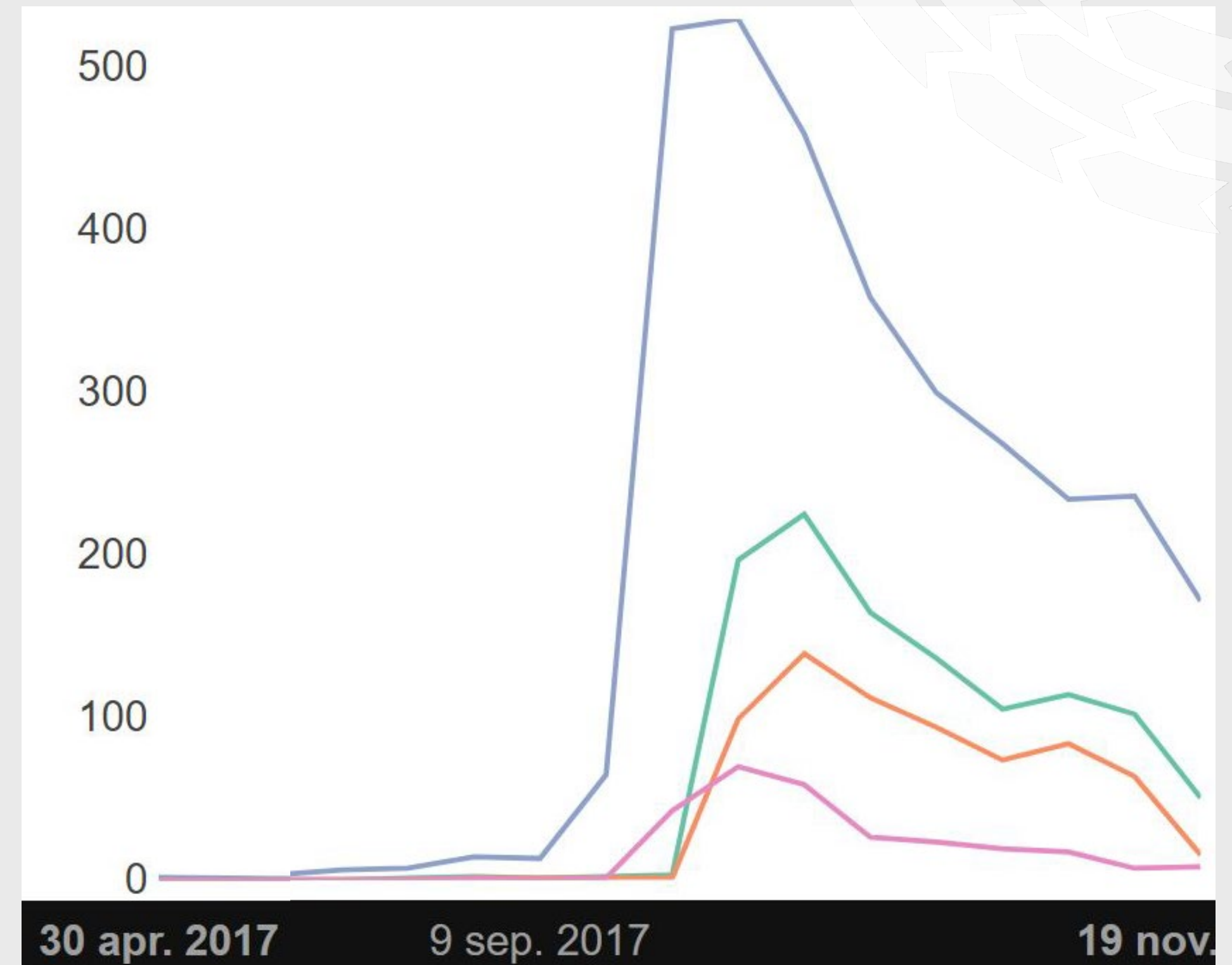


# Course evaluation – Student performance

## Key performance data

- 55 students were certificate eligible
- 39 certificates are issued
- Average grade of certificate eligible students = **85,4%**
- Average grade of certificate issued students = **85,8%**

## Learner activity over time





# Course evaluation – Post-survey results

## General

- Av. Grade: 8.3! (54r tot., 47 end course)
- Av. Time: 6,5h (45 r tot, also 17h)
- Positive result for a first-run MOOC

## Most liked

- Recap videos: thoughts professors
- Practical case studies: theory + fun!
- Assignments really made a difference

## Most valuable

- Managerial tools: 'a had no idea'
- Perspective of all MBA actors/phases
- Practical tools useable in my career

## Improvements

- Deadlines, time for assignments
- Too much aimed at students/scholars
- Timely communication forum



# Course evaluation – Lessons for Real estate education

## Comparative lessons:

- reformulating/reframing all aspects of traditional academic teaching

	Traditional MBE uni.education	Online MBE education
Learning objectives	High levels of learning (deeper understanding)	Lower levels of learning (intro to topic mainly)
Assignments	Exams, essays, feasibility studies, interdisciplinary working	Quiz tests, motivations, brief calculations, interdisciplinary environment
Assessments	Teacher's assessment, peer reviews, rubrics (criteria)	Self-assessment, 'peer reviews', checklists (criteria)
Interaction & communication	Room for error, informality within classroom	Less room for error, formalised by discussion platform



# Course evaluation – Prospects for future RE education

## MOOCs can:

- Increase the quality of teaching staff by online education training
- Increase teaching efficiency, by bringing across the main message
- Be integrated into and modernize campus & blended education
- Attract new international students to Bachelor/Master courses
- Build experience for professional courses (potential business model)
- Support research activities (generating data / publishing articles)

## MOOCs can not:

- Replace campus education & fully support development of 21<sup>st</sup> C. student skills:
  - limitations to interaction & real collaboration (students-students / students-teachers)
  - limitations to in-depth knowledge & creativity (time constraints / nature of assignments)



# Conclusions – Future of online Real Estate education

## Role of online Real Estate courses:

- Educating global audience about the importance of real estate for a sustainable society, cities, built environment (overall goal + funding opportunities)
- Triggering broader interest in real estate campus education programmes (marketing tool + strengthening/supporting campus education)

## Focus of online Real Estate courses:

- Appeal to a broad international public touching upon global (economic, societal, environmental, technical, etc.) challenges, and relating them to real estate
- Simultaneously allowing for practical/case assignments, assisting students in practising with real estate management, development, finance and investment aspects and tools (specialist & generic RE knowledge)



# MOOC Re-run starting Oct 3, 2018

<https://courses.edx.org/courses/course-v1:DelftX+MBA1.0x+3T2017/course/>  
<https://courses.edx.org/courses/course-v1:DelftX+MBA10x+3T2018/course/>



DelftX: MBA10x  
Managing Building Adaptation: A Sustainable Approach

Help



eheurkens

[Course](#) [Course Syllabus](#) [Reading Material](#) [Discussion](#) [Progress](#) [Instructor](#)

## Managing Building Adaptation: A Sustainable Approach

Start Course



We hope you have been able to take the opportunity to finalize your assignments and upload your work to Sketchdrive. As there was some confusion about the due

date and end date of the course, we decided to extend the due date for all the assignments to **Thursday 16 November 12.00 UTC**. So, the course is still open for you to complete the assignments, if you have not done so already.

Please note that the date to upgrade to a verified certificate has already passed.

We hope you enjoyed the course and we would like to see you in the future in other DelftX MOOCs!

Goal: Not sure yet

### Course Tools

- [Bookmarks](#)
- [Updates](#)
- [Upgrade to Verified](#)

### Pursue a verified certificate



Upgrade (\$50)

[Learn More](#)

### Important Course Dates

Today is Jun 29, 2018 14:49 CEST

### Course Starts

in 3 months - Oct 3, 2018