RESEARCH - personas and core business

Persona 1 (how many)
Teacher (vocational)
+- 15 students per teacher

Description:
Teacher dealing with students of different ages in same classes. Working in small groups on practical education both hands on and theoretical.

Transport:
car or PT

Workflow:
entering the building teachers entrance -> (administrative work) -> change clothes -> workshop or lecture -> fresh up -> changing clothes -> office work/meeting at flexible workspaces -> going home
- Office space (flexible) near workshop 6m2 pp
- Teaching room (college)
- Workshop space (for students)
- Small meeting rooms with students
- Teachers dressing rooms with lockers

Persona 2 (how many)
Teacher (theory/software)
+- 30 students per teacher

Description:
Teacher dealing with students of different ages in same classes. Working in regular groups on theoretical education focussed on computer/software engineering.

Transport:
Car or rapid bus Transit South-north or Lime line

Workflow:
entering the building teachers entrance -> (administrative work) -> preparation class -> seminar/lecture/presentation -> office work/meeting at flexible workspaces -> going home
- Office space (flexible) near workshop 6m2 pp
- Teaching room (college)
- Workshop space (for students)
- Small meeting rooms with students

Persona 3
Starting student “young” (workshop/manufacture training)

Description:
possibly high school dropout, or ruined by school system, or practical work enthusiast. Needs training in various areas related to advanced manufacture and working in workshops.

Transport:
rapid bus Transit South-north or Lime line

Workflow:
Entering the building through main entrance -> (change clothes) -> workshop training -> change clothes -> sports -> going home
- Flexible inspiring study space related to entrepreneurs
- Student dressing rooms
- Meeting room (large)
- Sports facilities (indoor)
- Public/private spots
- Outdoor space

Persona 4
Advanced student - age 20 - 60 (Process management and working skills)

Description:
Student with acquired skills to operate certain processes on small scale manufacturing/fablab. Able to work in the workshop for possible assignments in collaboration with entrepreneurs.

Transport:
rapid bus Transit South-north or Lime line

Workflow:
Entering building through main entrance -> (change clothes) -> work in machine workshop for entrepreneurs -> change clothes -> lectures or studying -> going home
- Flexible inspiring study space related to entrepreneurs
- Student dressing rooms
- Meeting room (small)
- Sports facilities (indoor)
- Public/private spots
- Outdoor space

Persona 5
Entrepreneur age: YUP (Development/software/robotics/fablab)

Description:
Professional, in collaboration with the institute and other companies. Working on models, prototypes and software innovations. Can make use of institute’s facilities, in return teaching students.

Transport:
Lime line or rapid bus transit or car

Workflow:
Entering building through main entrance business first -> meetings or collaborative work -> teaching in workshop advanced students / lectures / seminars -> work going home
- Flexible private office space
- Storage space
- Access to machine workshop
- shared office equipment
- formal/informal entrance
- meeting space (collaborative)
- reception space for clients
SCHOOL A

SCHOOL B

SCHOOLS

START UPS

A LOT OF CONNECTION
NO COLLABORATION

NO CONNECTION
NO COLLABORATION

NO SHARING RESOURCES
DOUBLE INVESTMENT

VS
RESEARCH - program precedents

Algonquin Centre for Construction Excellence, Ottawa, Canada (18,000 m²)

Automotive Centre of Excellence, Melbourne, Australia (4500 M2)

Jåttå Upper Secondary School, Stavanger, Norway (16,000 m²)

Institut Supinfocom Groupe, Valenciennes, France (18,800 m²)
RESEARCH - program precedents conclusion

Public program: 5000 M2

Workshop: 10000 M2

Education: 6000 M2

Start-ups: 5000 M2

Start-ups: 2000 M2

“L” Track station: 4500 M2
Our friends in Germany know—as we should—that some students are bored by traditional studies; some don’t have the aptitude for college; some would rather work with their hands; and some are unhappy at home and just need to get away. They realize that everyone won’t benefit from college, but they can still be successful and contribute to society.


...the majority opt for vocational education and training (VET). In Switzerland, this is a dual-track system whereby students attend classes at a VET school or college on a part-time basis, while the remaining time is spent doing an apprenticeship at a host company, allowing them to acquire on-the-job experience and practical skills.


Vocational education historically has been prevalent in European countries, such as Finland and Germany, but often comes with a stigma in the U.S. that suggests only low-performing and troublemaking students end up in such schools. In Germany, children of middle school age take tests and either move on to apprenticeships or a university preparation route, says James Stone III, director of the National Research Center for Career and Technical Education at the University of Louisville.

Source: http://www.usnews.com/news/articles/2014/05/02/the-return-of-vocational-high-schools-more-options-or-the-kiss-of-death
Connector:
+ Interesting spaces to connect to
+ Form is still very free and open for interpretation
- Form is not very strong
- Connects lots of different spaces
- Logistically challenging
- Direction of possible development not clear yet

Space Gate:
+ Strong form reacting on border/spatial conditions
+ Recognizable form is attractive for business
+ Form faces two directions of transport, imgo
+ Compact form
+ Form allows for expansion in all directions
- Logistically challenging
- Workshop space probable on top floor
RESEARCH - Truss structures (cantilever)

Horsaal Osnabrück
Bithom一体化 architects

Max Cantilver: 55 meter
Max distance trusses: 18,75 meter
Symmetrical trusses: 41,75 meter
Asymmetric cantilever: 18,75 meter
Asymmetric core: 13,000 meter
Truss height: 10 - 15 meter

Horsaal Osnabrück
Bithom一体化 architects
ICA, Boston
Diller Scofidio + Renfro architects

Max Cantilver: 26 meter
max distance trusses: 13 meter
Assymetrical trussels: angled
Assymetric cantilever: 23 - 26 meter
Assymetrical core: 3 meter
Truss height: 8 meter
Lamar Corporate Headquarters, Michigan
Lamar Construction

RESEARCH - Truss structures (cantilever)

Max Cantilever: 32 meter
max distance trusses: 9 meter
symmetrical trusses: - meter
symmetrical cantilever: - meter
symmetrical core: - meter
Truss height: 7 meter
Villa Méditerranée, Marseille
Boeri Studio

Max Cantilver:    40  meter
max distance trusses:    13  meter
symmetrical trusses:
symmetrical cantilever: -
symmetrical core: -
Truss height:    5.5 - 6.5  meter

a  63000 mm
b  10000 mm
c  44000 mm
d  13000mm
e  2500 mm
RESEARCH - Truss structures typologies/shapes

<table>
<thead>
<tr>
<th>Research</th>
<th>Max Cantilver</th>
<th>Max distance trusses</th>
<th>Symmetrical trusses</th>
<th>Asymmetrical trusses</th>
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<td>55 meter</td>
<td>18.75 meter</td>
<td>symmetrical</td>
<td>angled</td>
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research 03

Max Cantilver: 32 meter
max distance trusses: 9 meter
Symmetrical trusses
Symmetrical cantilever:
Symmetrical core:
Truss height: 7 meter

research conclusion for project

Max Cantilver: 40 meter
max distance trusses: 32 meter
Symmetrical trusses
Symmetrical cantilever:
Assymetrical core: 3 meter
Truss height: 10 meter
RESEARCH & DESIGN - Program by performance

- Auditorium
- Entrance
- ROBOT
- CNC
- 3D
- Support
- Start up
- Expo
- Coffee bar/Restaurant
- SU Assembly
- EDU Assembly
- Lecture
- Study space
- EDU Offices
- Parking

Additional notes: RESEARCH & DESIGN - Program by performance
RESEARCH & DESIGN - Program by performance

- restaurant
- entrance
- foyer
- informal meeting
- formal meeting
- office space
- JUNQ yard
- auditorium
RESEARCH & DESIGN - Program by performance

- Auditorium P
- Entrance
- ROBOT
- CNC
- 3D Support
- Expo
- Coffee Bar/Restaurant
- SU Assembly
- EDU Assembly
- Lecture
- Study Space
- SU Offices
- Parking
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RESEARCH & DESIGN - Program by performance

- Entrance
- Foyer
- Informal meeting
- Formal meeting
- Office space
- JUNQ yard
- Auditorium P
- Formal meeting
- Entrance
- Office space
RESEARCH & DESIGN - Program organised in relation to surrounding area

- Lecture
- Study space
- Edu offices
- Auditorium
- ROBOT
- CNC
- 3D
- Server
- Support
- Entrance
- Meeting
- Sports
- Relaxing/outside
- Coffee bar/restaurant
- Parking
- Start up
- Assembly
- EDU assembly
- SU assembly
DESIGN - Roof MAFA bunker
DESIGN - Roof MAFA bunker
DESIGN - Roof MAFA bunker
DESIGN - Roof MAFA bunker
DESIGN - Facade in sugar (natural landscape)