

# Interdisciplinary Education for Innovation is Tough, But it Pays. *(Really?)*



# Is "Education for Innovation" possible at all ?



# Should ( and if , how can ) business(people) get involved ?



# Goal = innovative products ? (What else?)



Education for innovation needs to be "radically transversal".  
*(TRANS-generational, TRANS-disciplinary, TRANS-cultural)*

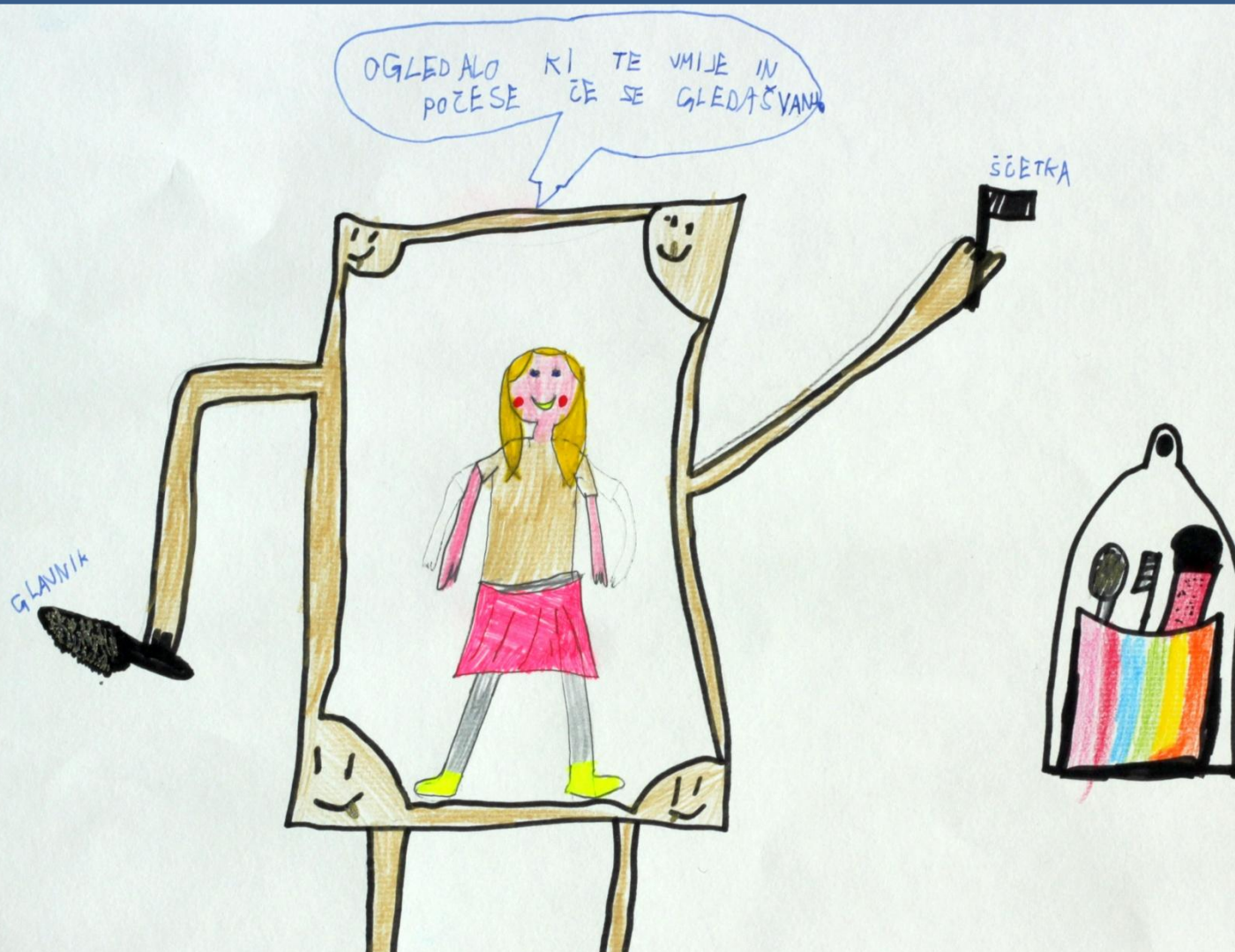


**"You have all the reason in the world to achieve your grandest dreams.  
Imagination plus innovation equals realization."**

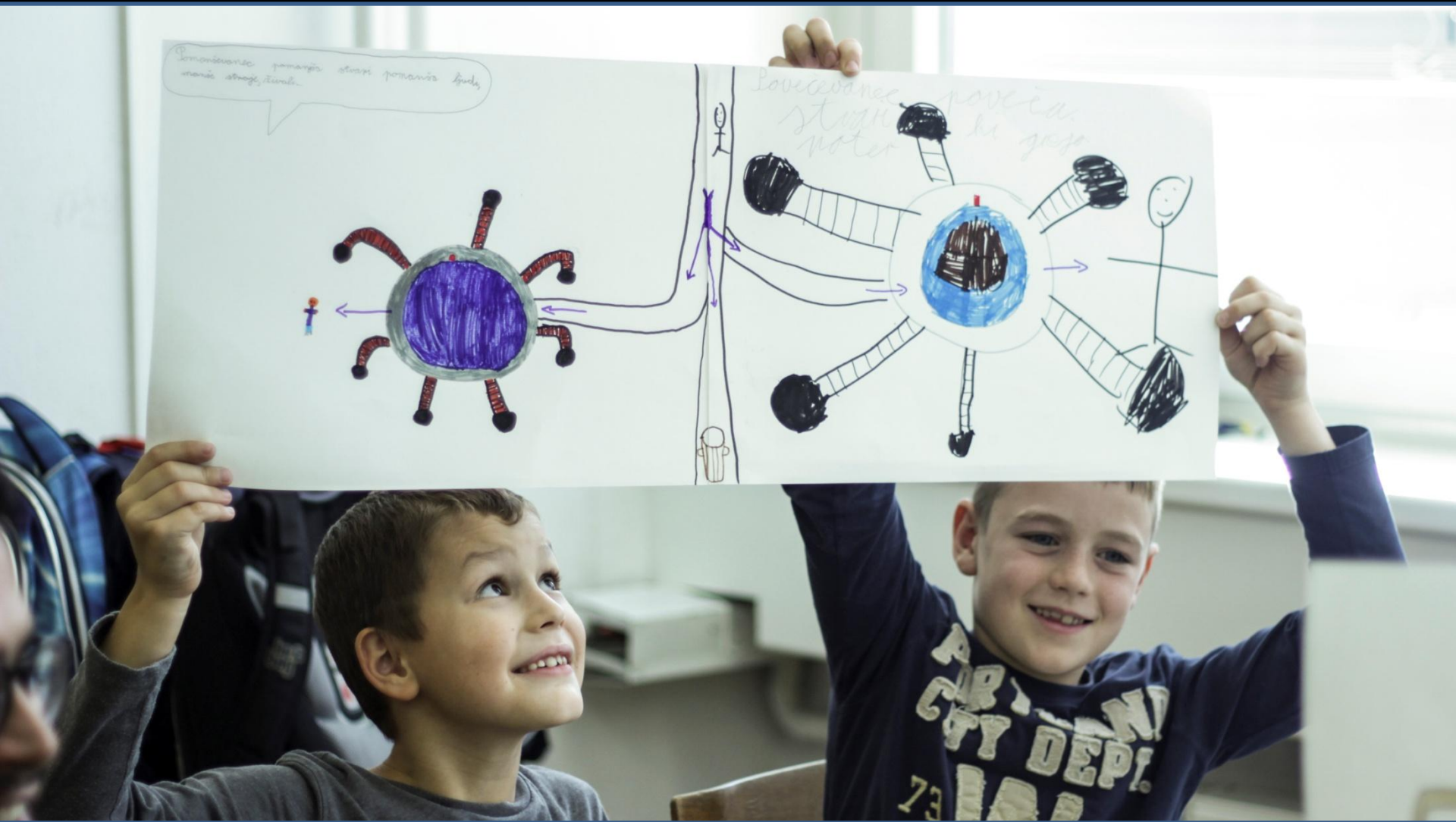
*Denis Waitley (The Psychology of Winning, Seeds of Greatness, The Winner's Edge)*



We all enjoy brushing our teeth and hair every morning !  
(Really?)



( What about that DIWO dream ? )





..now you do it 1) YOURSELF , and 2) WITH THE OTHER

## 1) Draw (sketch) each Your own "dream machine".

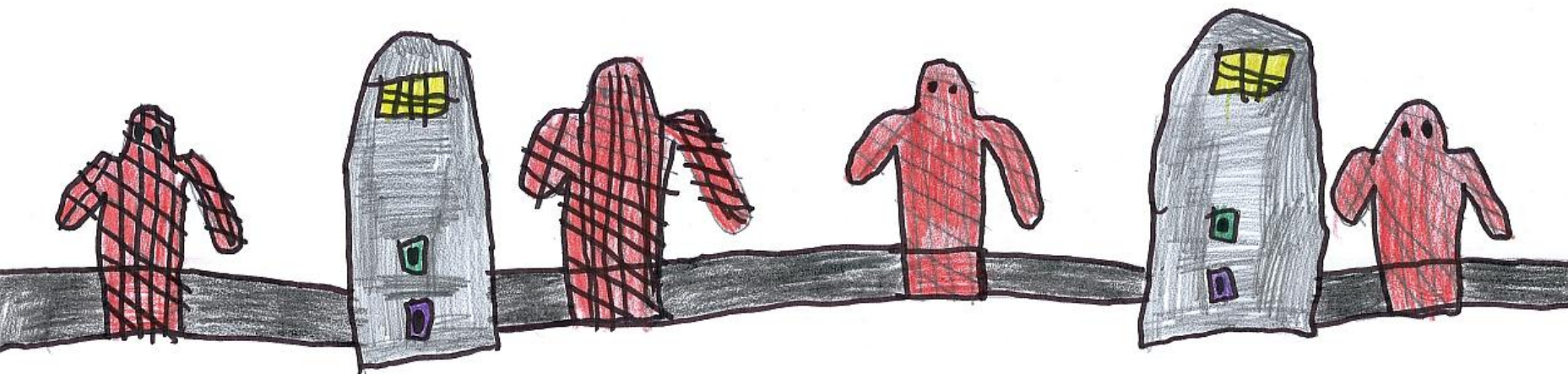
(30 seconds imagine + 90 seconds draw)

NOTE: The "dream-machine" ideating/brainstorming should have **no limits**, the machine can be **realistic and/or non-realistic**, hardware and/or software; hi-tech or lo-tech... Importantly, it should **solve a problem, need, task or question** that You think is important, and cannot be tackled otherwise (with the "machines" known so far).

## 2) Explain to your LEFT-HAND neighbor "how it works"; listen to her/him in turn.

(30 seconds explain + 30 seconds listen)

# Distance collaboration of Belgian and Slovenian children = "The Zombie"



Naam	Saiko
Leeftijd	11 jaar
Naam van de machine	de zombie machine
Probleem	voor de deur te zetten voor versiering
Oplossing (ik wil een machine om...)	voor, om dat die zombies de deur en de noot open te doen rij is mijn dinosaar



# Blended collaboration of “Belgian” and “Slovenian” students & mentors on “Zombie” = MyMachineGlobal (2016)



# Art x Design x Engineering = many Zombies..

0/0 zombie

When done: Sound

zombie slowly comes back up

inside: monsters & ghosts that were caught

Ghost = not scary at all!

L Raspberry Pi + LCD screen (powered by Li-Po battery)

Afterwards: bedtime story

Softly glowing eyes

Blanket

Zombie is passed around between the kids sitting in a circle

... when suddenly he stops singing

Child looks inside

kid has to use gestures to show which animal was inside. When someone guesses it → his/her turn

THE ALBANI

MAGNETIC CUSTOMING

you personalize your zombie with caps, messy...

Waking up - normal zombie in your alarm

TO MAKE STOP THE KID AND ZOMBIE

MOVING & SLEEPING, you flip & spin

ROLLING BALL

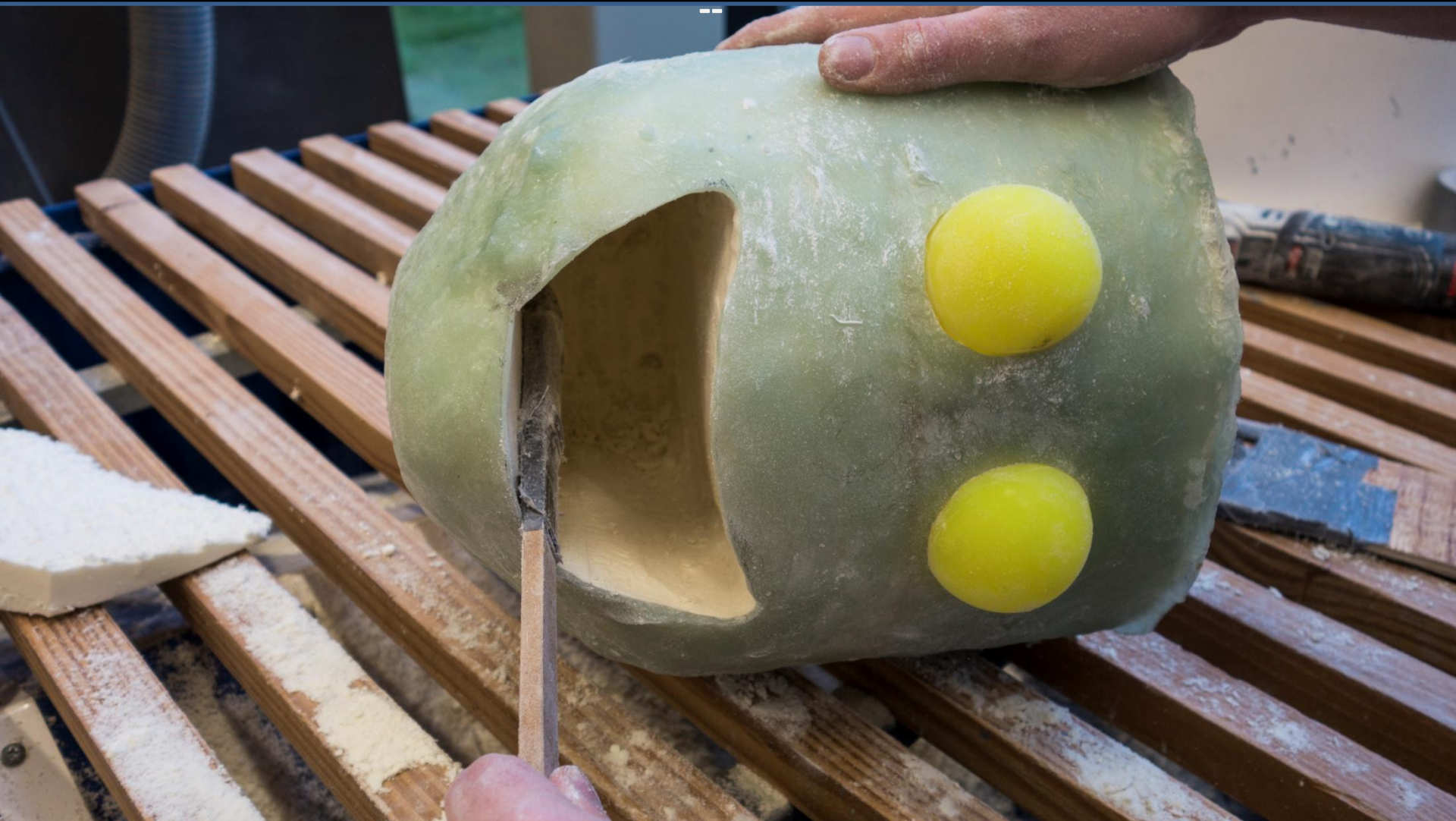
GH1 & TH1

INSIDE BOX

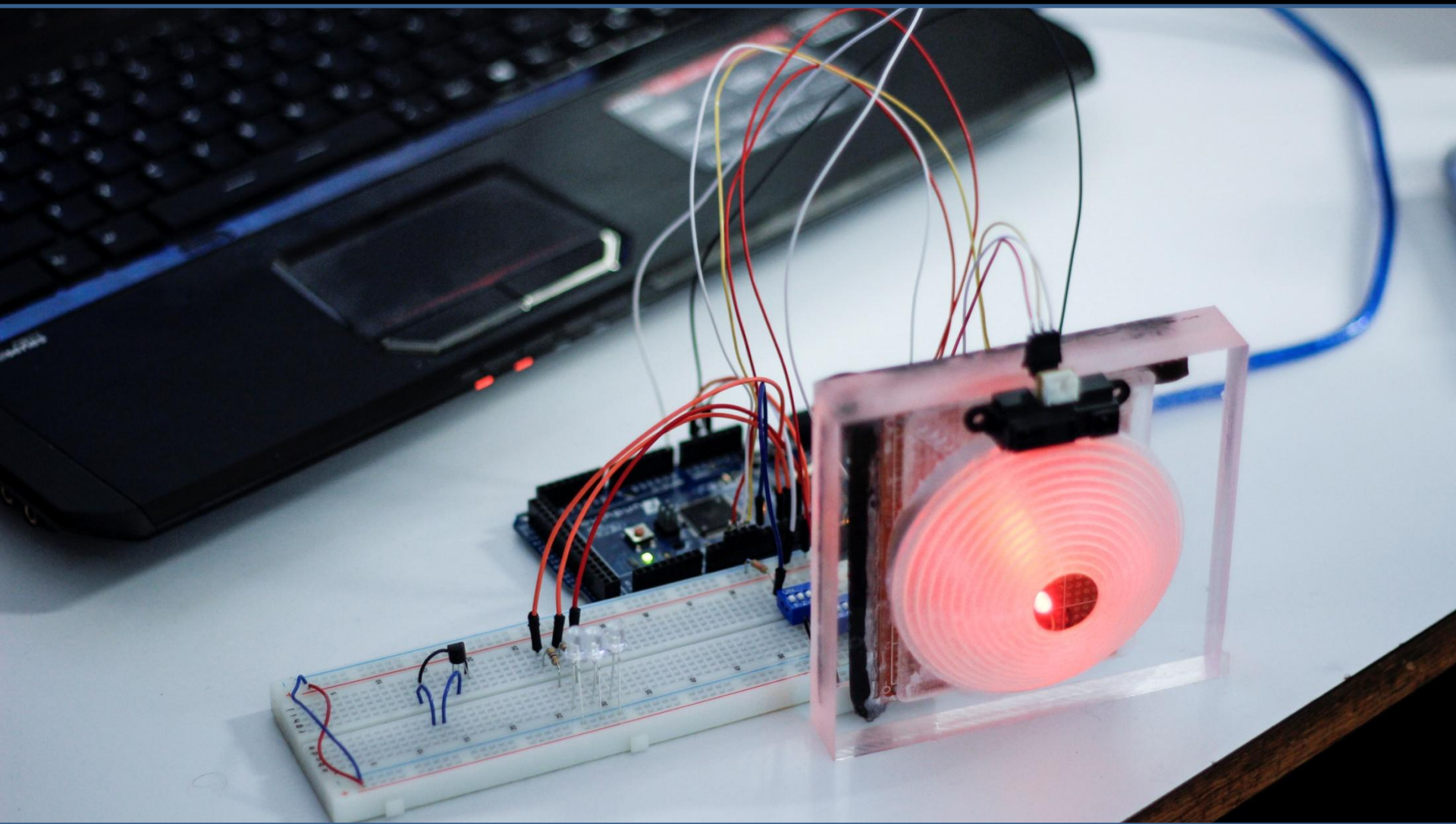
limited resources x innovation spirit ( + new knowledge )



*“Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.” William Pollard*



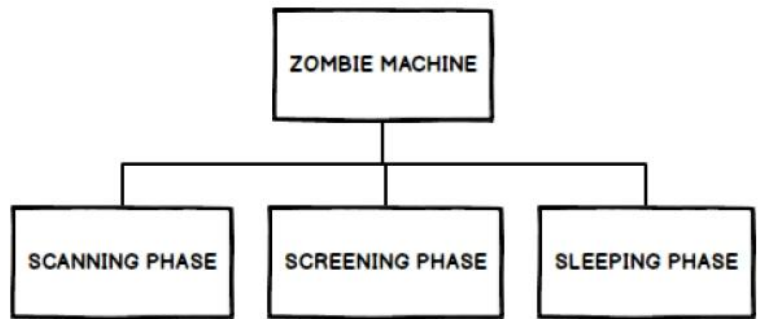
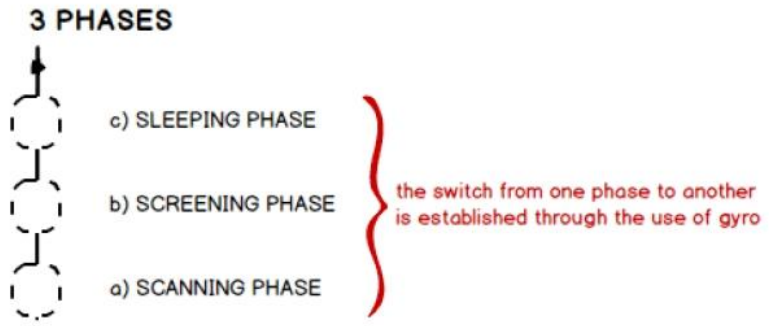
*Sometimes beauty is simply NOT in the eye of the beholder !*



**"You don't understand anything unless you understand there are at least 3 ways."**

*Marvin Minsky (The Society of Mind, The Emotion Machine)*

## MYMACHINE - ZOMBIE MACHINE INTERACTION TREE



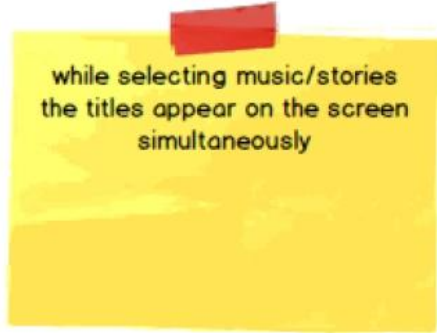
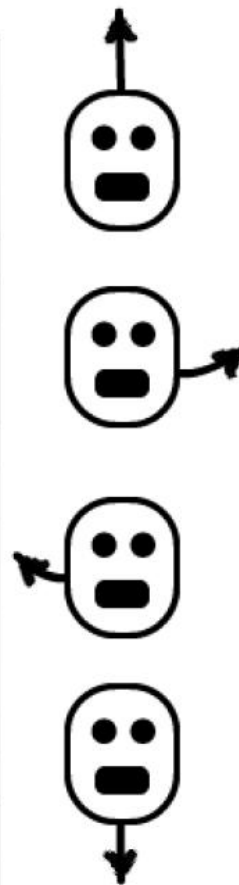
height	0 - 30 cm	> 30 cm - 150 cm	> 150 cm - 160 cm
phase duration	30' - 1" (random)	1" - 5" (random)	/
backlight color for eye balls	eyes: green	eyes: yellow	eyes: blue
sound that are produced	sounds: scary	sounds: celebrating	sounds: to chose
color of light tubes	brains: red	brains: green	brains: bright light
animation	mouth: angry	mouth: ghosts	mouth: happy

- height determines the change from one phase to another
- the duration of SCANNING and SCREENING cycle is random (shorter when less monsters caught, longer when more)
- SCANNING, SCREENING and SLEEPING phase can be interrupted my putting the zombie up or down or turning it off
- SLEEPING phase starts with a delay of 15"

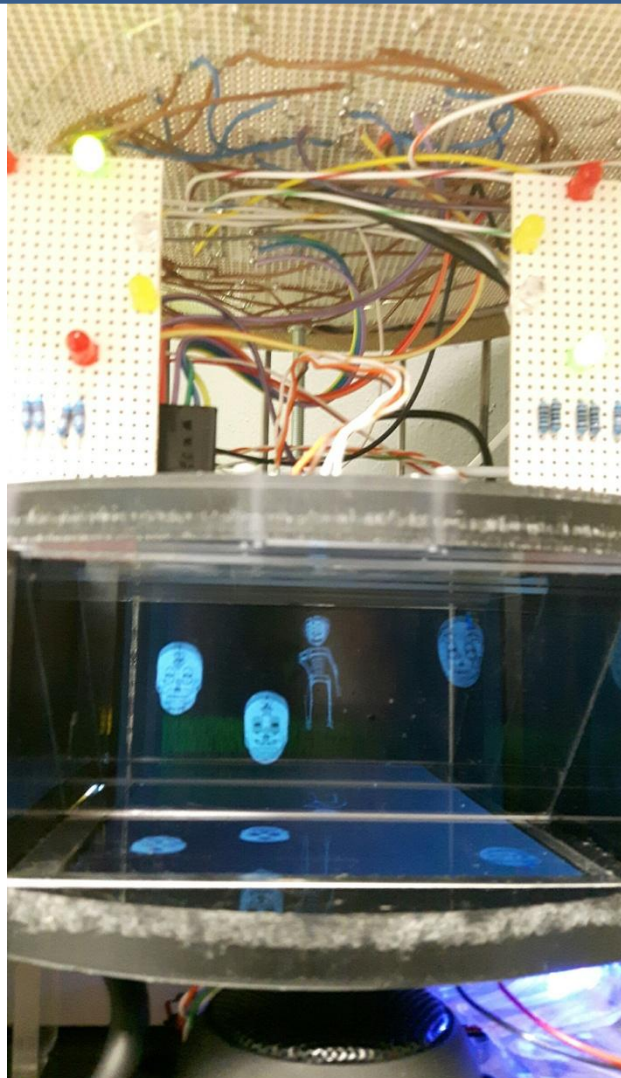


# Interdisciplinary + Intergenerational Education for Innovation..

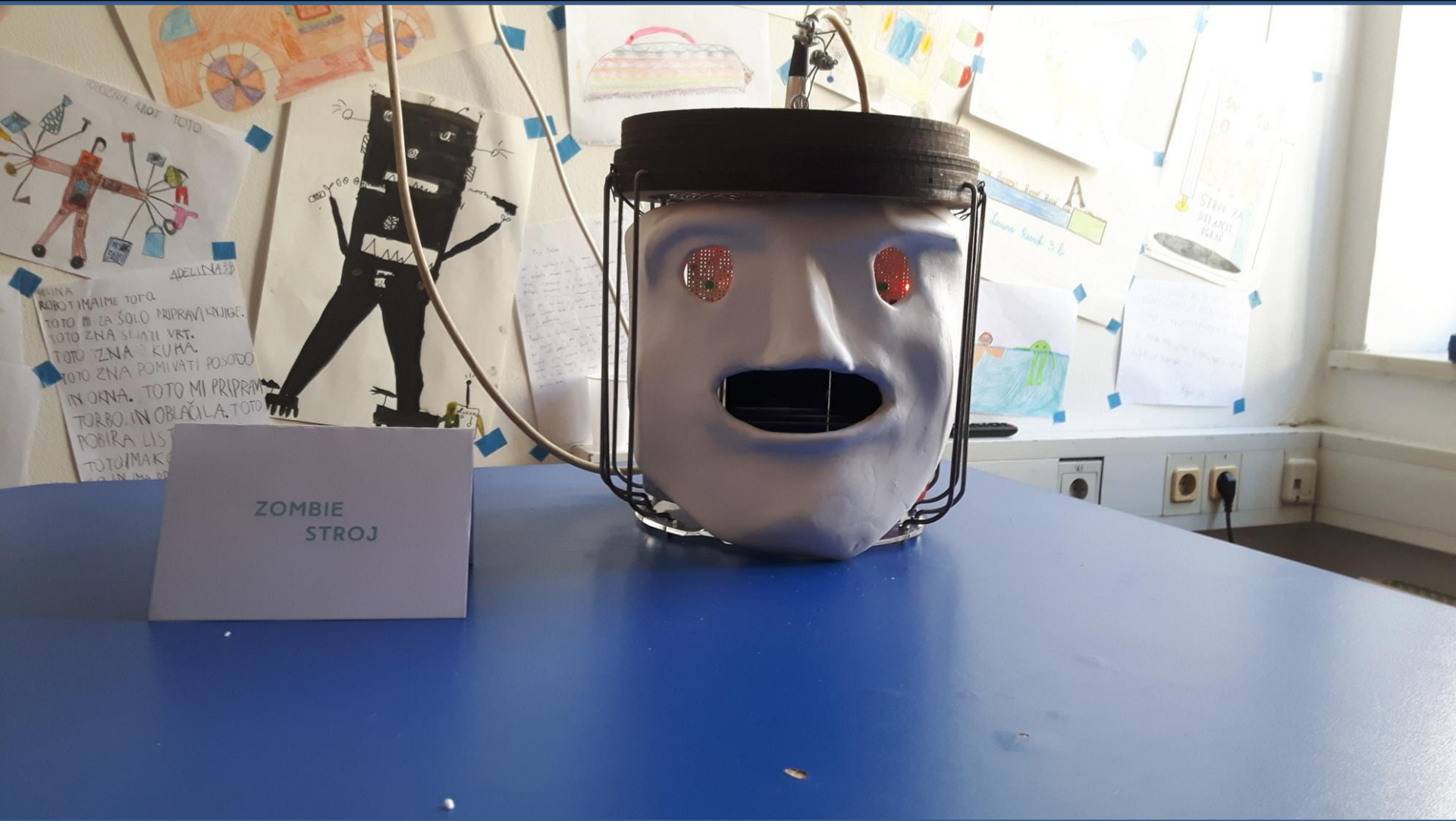
<b>SWITCHING ON/OFF:</b> <ul style="list-style-type: none"><li>- by throwing machine in the air</li><li>- by fast motion towards up</li><li>* min. trajectory: 10 cm</li></ul>
<b>SELECTING MUSIC:</b> <ul style="list-style-type: none"><li>- by tilting machine RIGHT</li><li>* min. angle: 45°</li><li>* to browse selection with min. 15° tilt back (left)</li></ul>
<b>SELECTING STORIES:</b> <ul style="list-style-type: none"><li>- by tilting machine LEFT</li><li>*to browse selection with min. 15° tilt back (right)</li><li>* min. angle 45°</li></ul>
<b>CONFIRMING AUDIO SELECTION:</b> <ul style="list-style-type: none"><li>- by tilting machine DOWN</li><li>* min. angle 45°</li></ul>
<b>ENDING AUDIO SELECTION:</b> <ul style="list-style-type: none"><li>- by pushing machine down again to SCREENING phase</li></ul>



.. is Tough, But it Pays.  
*(Does it?)*



# “Zombie”, the Slovenian prototype (final version)



# “Zombie”, the Belgian prototype (final version)



# MyMachineGlobal children, mentors and students (Belgium, 2016)



# “Toy-gathering Dinosaur” (MyMachine Slovenia, 2015)



# “Flying car” (MyMachine Slovenia, 2015)



# User-centred, iterative design (MyMachine Slovenia, 2015)





# Interdisciplinary Entrepreneurial Application for Transforming Education = IDEATE (project)



# An inter-university course on interdisciplinary entrepreneurship = IDEATE (programme)



# The IDEATE Toolbox

## //howto.ideate.me

howto.ideate.me/methods/

howto  
ideate:

Why IDEATE

Course Overview

Methods

Student's reflections

Checklist

Mentor training

Get in touch

### Expert talk

Invite an expert to give their deep perspective on the topic

### Brainstorming

"How might we solve this problem?"  
Foster out-of-the-box ideas.

### Brainwriting

Similar to visual storming, also called "design studio" method

### Challenge exposition

Mentors decide on the IDEATE challenge and present it

### Idea screening

Set criteria and select. Think about usability, feasibility, viability.

### User research

How to prepare-for and execute interviews. Qualitative research.

### Persona creation

Students use Empathy mapping to visualise typical users

### Group creation

Each group should be as heterogeneous as possible.

### Expert talk

Invite an expert to give their deep perspective on the topic

### User Journey

Mapping out what users do before, while and after they use our solution.

### Daily meeting

It can be held daily or every other day during the incubation phase.

### Online collaboration

Moodle, FB, Google, Skype, Snapchat, Twitter ...

### Idea screening

Set criteria and select. Think about usability, feasibility, viability.

### Customer value creation

How to create value. What is the value anyway? A keynote.

### Elevator Pitch Revolver

A short excerpt about Pitch revolver. What is this for, when to use it.

### Business Canvas

A way to think about the business in a visual and intuitive way

### User Journey

Mapping out what users do before, while and after they use our solution.

# Intercultural + Interdisciplinary Education for Innovation is Tough. *(But it Pays!)*



*“Competition has been shown to be useful up to a certain point..”*

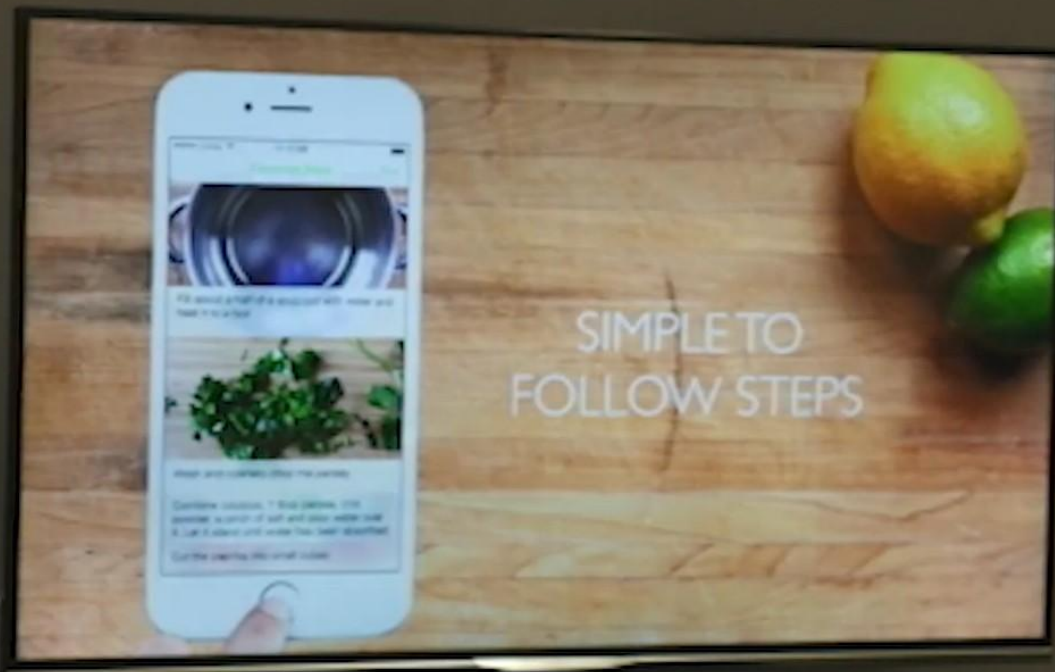


*".. and no further, but cooperation/.../ begins where competition leaves off."*

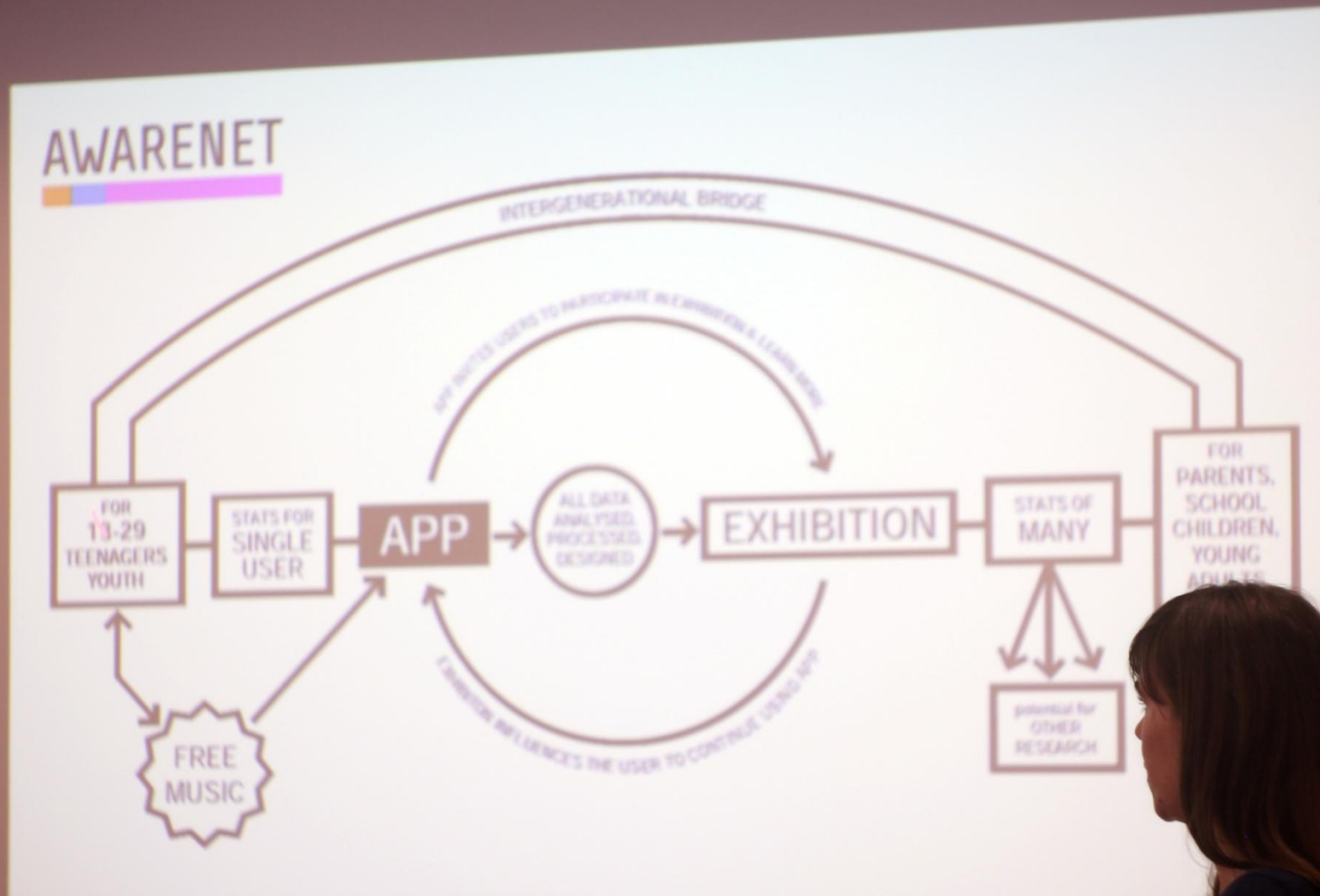
*Franklin D. Roosevelt*



# "ChefTastic" = IDEATE 2014/15 winner



# "AWARENET" = IDEATE 2015/16 winner





.. IT DOES PAY, IF IT'S >> INTERGENERATIONAL.

MyMachineGlobal children, mentors and students (Slovenia, 2016)



.. IT DOES PAY, IF IT'S >> INTERCULTURAL.

IDEATE 2015/16 ice-breaking session in Turku, Finland



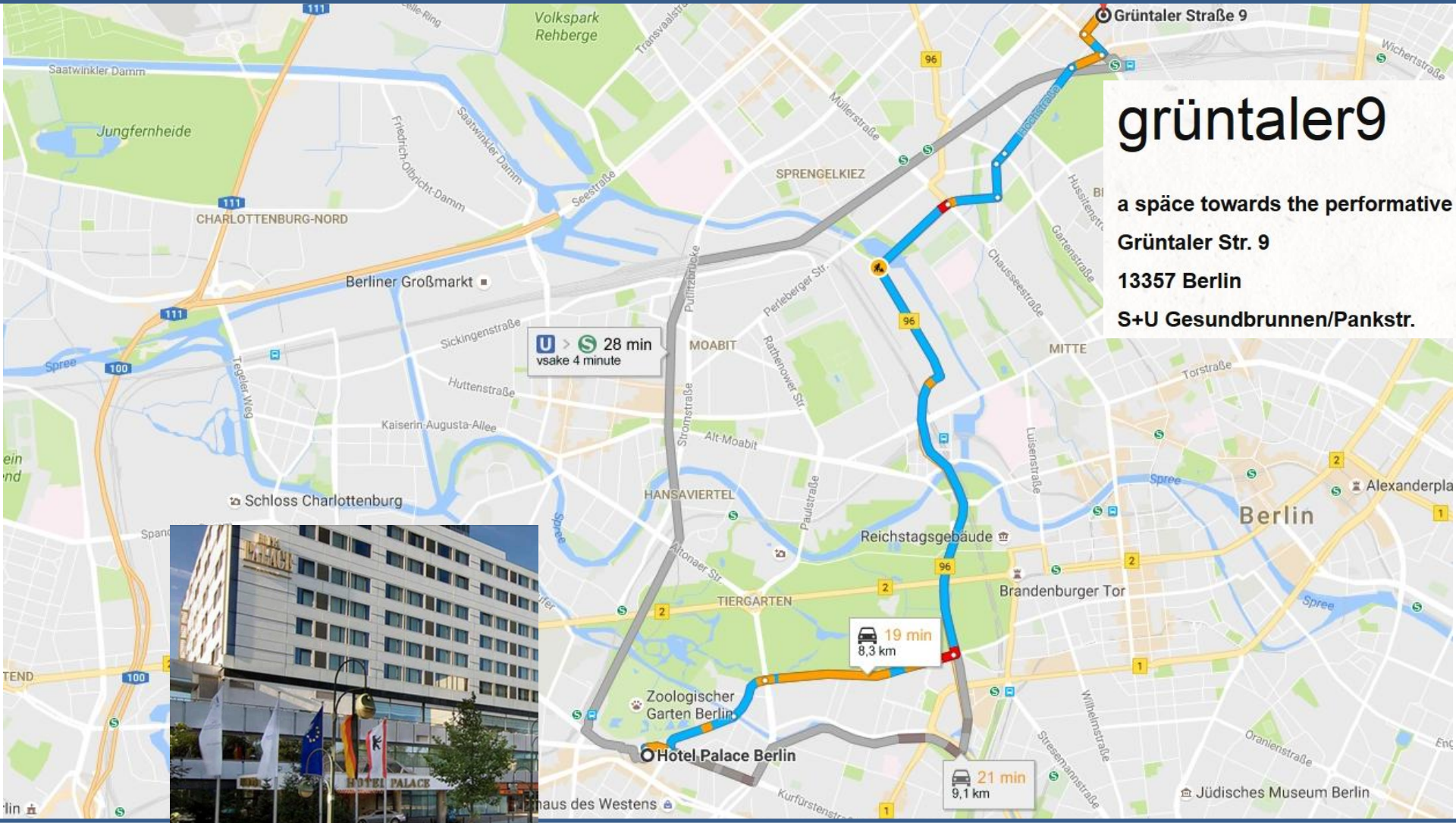
Entrepreneurial attitudes and true innovation spirit  
can be nurtured and developed, ..



..as long as these processes are well structured and conducted by competent interdisciplinary educational teams – including business stakeholders !



# Welcome to "The DreamTogether Machine" (tonight, 6PM) inspired by MyMachineGlobal, sponsored by IDEATE.me (EC) & partners



# Welcome to "The DreamTogether Machine" (tonight, 6PM)

inspired by MyMachineGlobal, sponsored by IDEATE.me (EC) & partners

## "The DreamTogether Machine"

a migrating ideation event, supported by

[Gruentaler9](#), [The Space Berlin](#), the [IDEATE.me](#) project, inspired by FEI  
"Transformation Through Innovation" conference and [MyMachneGlobal](#);

moderated by pETER Purg of [University of Nova Gorica](#), [School of Arts](#),  
on October 6, **18 - 21h**, at Gruentaler9, Berlin, Germany

A dozen of MachineDreamers -- mixed between the most propulsive innovators from the West, and the most promising young immigrants from the East -- will Together draw Machines, such as they dream of! ( And then, they might even come true! )

**18:00** Hotel Palace, **front door** – pickup by 6 taxis

18.30 Gruentaler9 – brainstorming & drawing together

19.30 Gruentaler9 – socializing & planning on (*GreenChillies catering*)

20.30 >> Open-end around Gesundbrunnen... (*15-min ride back to hotel with S/U-Bahn*)

Thank you.

**pETER Purg, PhD**

**University of Nova Gorica | School of Arts**

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