



## Greek cMDf Open Competition

# “3D Collaborative Manufacturing in Education & Culture”



**CERTH**  
CENTRE FOR  
RESEARCH & TECHNOLOGY  
HELLAS



**aidplex**



MUNICIPALITY  
OF CHALKIDONA  
ΕΝΩΣΗ ΣΥΛΛΟΓΩΝ ΓΟΝΕΩΝ & ΚΗΛΕΜΟΝΩΝ  
ΠΡΩΤΟΒΑΘΜΙΑΣ & ΔΕΥΤΕΡΟΒΑΘΜΙΑΣ ΕΚΠΑΙΔΕΥΣΗΣ  
ΔΗΜΟΥ ΧΑΛΚΙΔΟΝΟΣ  
Focus on Children

March 2022



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 870037.

# Concept description



## Challenge idea:

**#A:**  
3D Printed  
Protective  
Equipment  
Or  
**#B:**  
3D Printed Smart  
Luminous Artifact



## Requirements:

Co-design  
&  
Co-create  
an Object  
related to  
iPRODUCE  
cMDFs  
Countries



## Participations:

**Schools:**  
Elementary  
(5<sup>th</sup> & 6<sup>th</sup> grade)  
or  
Middle  
  
**Students:**  
(Individuals or  
Groups)



## Jury:

Greek cMDF  
Representatives  
  
CERTH  
AidPlex  
Parents &  
Guardians  
Association

1

2

3

4

5

6

7

8



## Winners:

3 Best Ideas  
  
Gold Prize  
  
Silver Prize  
  
Bronze Prize



## Awards:

3D Printed Medals  
  
with the Logo of  
  
iPRODUCE



## Prize:

3D Printed  
Prototype  
  
of the Best Idea  
  
(Gold Prize)



## Ceremony:

Infrastructures  
of  
CERTH/ITI

- **The competition aims to:**
  - ✓ contribute to the **cultural education** of elementary or middle school students, through **3D collaborative manufacturing activities**
  - ✓ encourage the participation of **schools/students**, allowing for **creative ideas** and innovative solutions to be explored and implemented, by following the principles of **co-design** and **co-development**
- **The participants are invited to:**
  - ✓ select **one** of the proposed **challenge ideas**
  - ✓ co-create and co-design an **object**, related to a **country** and **culture** of their choice
- **The competition aims:**
  - ✓ to support **winners** in the collaborative design and development of prototypes
  - ✓ to reach further stages of **prototype development** and **implementation** of their ideas
  - ✓ by incorporating **3D printing** and **AR/VR** technologies

# Proposed challenge ideas



## Challenge idea:

#A: 3D Printed Protective Equipment

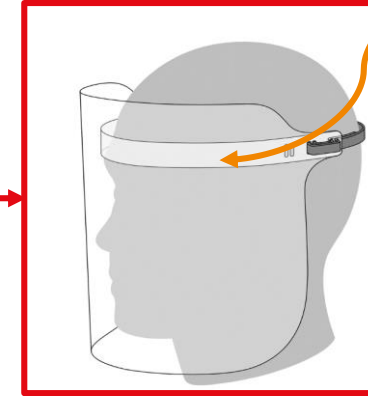
Or

#B: 3D Printed Smart Luminous Artifact

1

3D Printed Protective Equipment

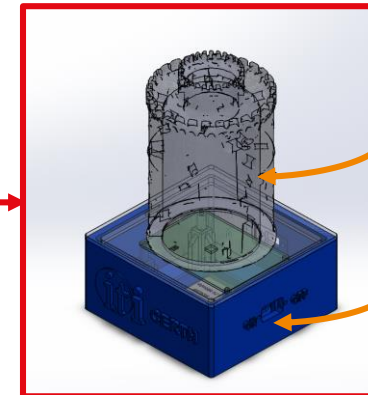
#A



Part

#B

3D Printed Smart Luminous Artifacts



Top Part

Bottom Part

# Requirements



## Requirements:

Co-design & Co-create  
a Product  
related to  
iPRODUCE cMDF  
countries

3D Printed  
Protective  
Equipment

#A

2

#B

3D Printed Smart  
Luminous Artifacts

- Select between **(#A)** and **(#B)** challenge ideas
- Design a **sketch** of a **3D model** (in paper)
- Based on the **map borders** of one of the following countries of iPRODUCE cMDFs:



1. Denmark
2. France
3. Germany
4. Greece
5. Italy
6. Spain



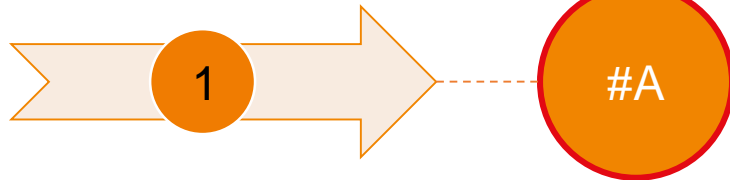
- Add features related to the **culture** of the selected country
  - (e.g. flags, monuments, patterns, logos, text)

# Challenge idea #A



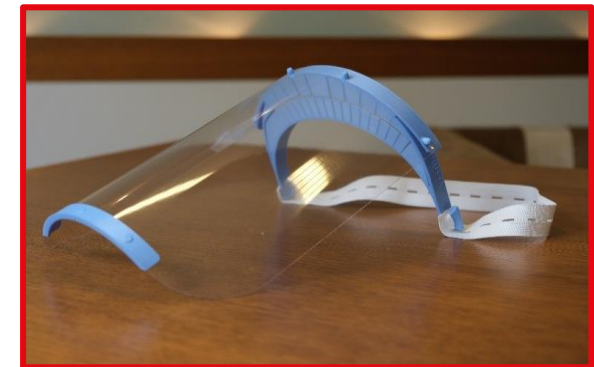
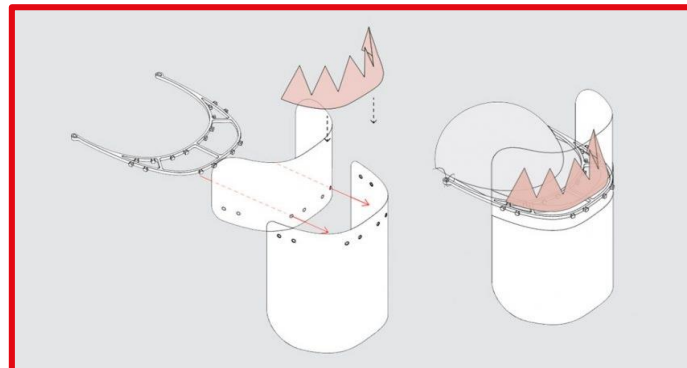
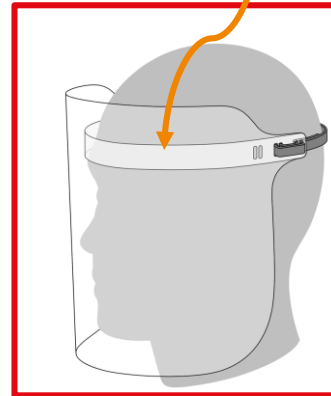
## Challenge idea:

**#A:**  
3D Printed  
Protective  
Equipment



3D Printed  
Protective  
Equipment

Design this part



# Challenge idea #B



## Challenge idea:

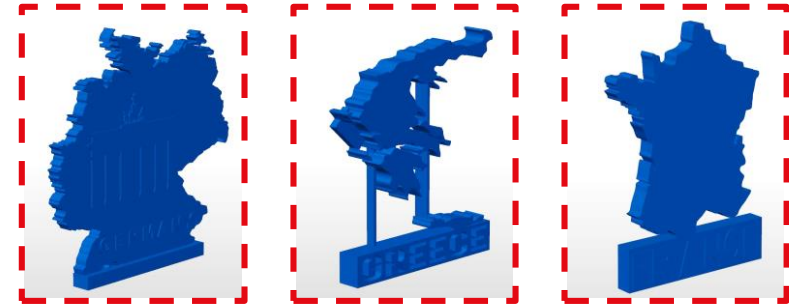
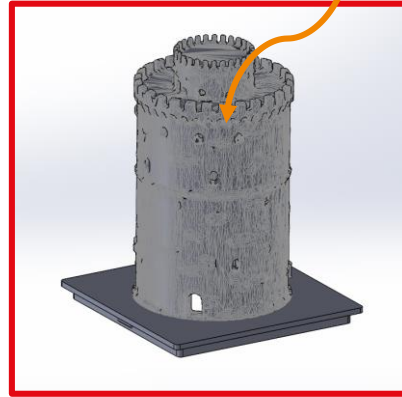
**#B:**  
3D Printed  
Smart  
Luminous Artifact

3D Printed Smart  
Luminous Artifacts

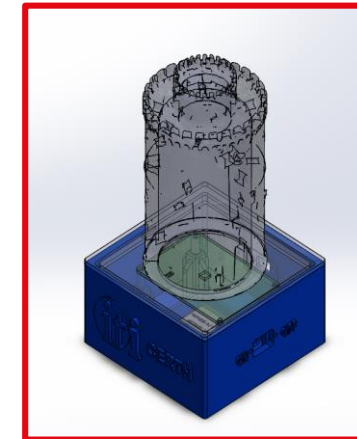
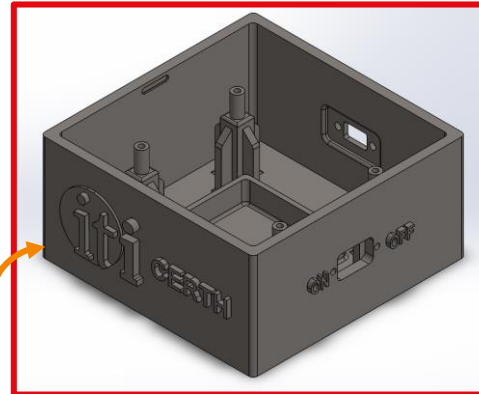
1

#B

Design the Top Part (Hollow)



Design the logo of  
the Bottom Part





## Participations:

**Schools:**  
(Elementary or Middle)

**Students:**  
(individually or groups)

3



- The participation in the competition is **free of charge**
- The **possible entries** for the competition can be:
  - **Schools of the Region of Central Macedonia, of Greece**
    - **Elementary Schools (5<sup>th</sup> & 6<sup>th</sup> grade)**
    - **Middle Schools**
  - **Students of Schools:**
    - **Individual submissions**
    - **Group of students**





## Jury:

Greek cMDf

Representatives

(CERTH & AidPlex)

4



**CERTH**  
CENTRE FOR  
RESEARCH & TECHNOLOGY  
HELLAS



**aidplex**



MUNICIPALITY  
OF CHALKIDONA  
ΕΝΩΣΗ ΣΥΛΛΟΓΩΝ ΓΟΝΕΩΝ & ΚΗΔΕΜΟΝΩΝ  
ΠΡΩΤΟΒΑΘΜΙΑΣ & ΔΕΥΤΕΡΟΒΑΘΜΙΑΣ ΕΚΠΑΙΔΕΥΣΗΣ  
ΔΗΜΟΥ ΧΑΛΚΙΔΟΝΟΣ  
Focus on Children

- The **jury**, which will evaluate the proposals of the participants, will be composed of **representatives** from the following **three entities**:

- **Centre for Research & Technology Hellas**
- **AidPlex**
- **Union of Parents & Guardians Association of Primary & Secondary Education, Municipality of Chalkidona**

# Winners



## Winners:

3 Best Ideas

Gold Prize

Silver Prize

Bronze Prize



- Based on the **innovation** of the idea, **three prizes**:
  - The **Gold**, the **Silver** and the **Bronze Prize**
  - Will be distributed to the school/student of **1<sup>st</sup>**, **2<sup>nd</sup>** and **3<sup>rd</sup> place**





## Awards:


3D Printed Medals

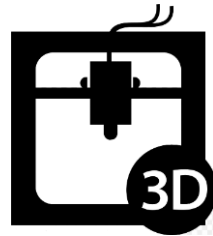
with the logo of

iPRODUCE



6

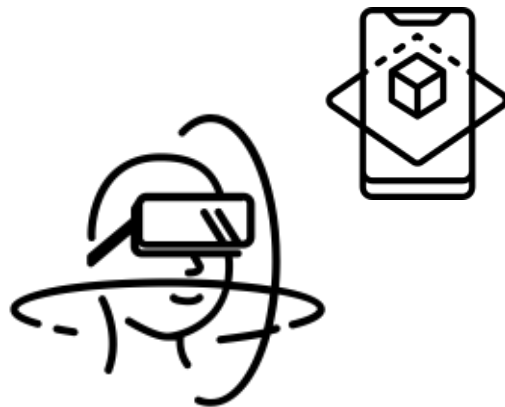
- All the students of the **three schools** that will be the winners of the competition
- Will receive as an **award**:
- **3D Printed Medals**
- with engraved  **PRODUCE logo**



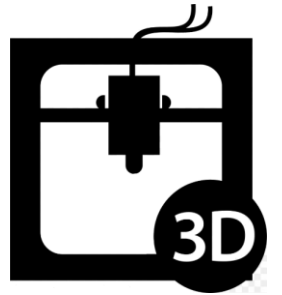


## Prize:

3D Printed Prototype  
of the Best Idea  
(Gold Prize)



- The best idea (**1<sup>st</sup> prize**):
- Will be **manufactured** using diverse 3D Printing technologies
- The students will have the chance to:
  - Have a real-time demonstration of **3D printing process**
  - Have a **guided tour** in the **infrastructures** of **CERTH & AidPlex**
  - Utilize the **OpIS platform** in order to create their idea

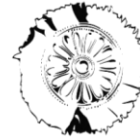




## Ceremony:

Infrastructures  
of  
CERTH/ITI

8



**CERTH**  
CENTRE FOR  
RESEARCH & TECHNOLOGY  
HELLAS



- **The award ceremony:**
- will take place in the **infrastructures** of the laboratory of
- the Additive Manufacturing Unit (**AMU**) of **CERTH/ITI**
- on **Saturday 28 May 2022**, at 10:00 am.



Activity	Date
Opening date for submissions	08 March 2022
Closing date for submissions	30 April 2022
Evaluation of entries	04 May 2022
Selection/ notification of competition winners	06 May 2022
Start date for delivery of award	10 May 2022
End date for delivery of award	31 May 2022

# PRODUCE



**CERTH**  
CENTRE FOR  
RESEARCH & TECHNOLOGY  
HELLAS



**ADDITIVE  
MANUFACTURING  
UNIT**



**aidplex**



MUNICIPALITY  
OF CHALKIDONA  
ΕΝΩΣΗ ΣΥΛΛΟΓΩΝ ΓΟΝΕΩΝ & ΚΗΔΕΜΟΝΩΝ  
ΠΡΩΤΟΒΑΘΜΙΑΣ & ΔΕΥΤΕΡΟΒΑΘΜΙΑΣ ΕΚΠΑΙΔΕΥΣΗΣ  
ΔΗΜΟΥ ΧΑΛΚΙΔΟΝΟΣ

Focus on Children



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 870037.