### Project Lutín – Wetzlar (Autumn 2019)





What is going on?

- This project, called E-Scooter, is a project between ours schools of Lutín and Wetzlar, sponsored by the European Union
- There were 28 students from both schools, working on this project
- We were divided into two teams
- Each team was divided into four groups : CAD group, CNC group, Workshop group and Documentation one
- There was also one Video-Documentation group

# WHAT IS AN E-SCOOTER?

- E-Scooter is modified with special electric power unit
- The power unit (in this case) is a cordless drill
- The cordless drill is powering one smaller wheel, which is powering the rear wheel of our scooter

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TEAMS – TEAM 1



Denis Kadias David Schaefer Max Schweitzer Dieter Faust Lennart Ruscheinski



Miloslav Janeček Miroslav Datel Marek Hlavička Dominik Soor Jakub Vymlátil Tomáš Hrbata Štěpán Kappl Filip Tůma



TEAMS – TEAM 2



Kerem Eren Louis Baena Claas Silas Schmidt Lea Maria Hartmann Luca Auth Timo Burk



Tadeáš Kadlec Ondřej Vybíral Karel Kobliha Šimon Kubálek Martin Přidal Michal Uhlíř Michal Pekař



#### AUTODESK<sup>®</sup> AUTOCAD<sup>®</sup>

#### CAD GROUPS

TEAM 1:

TEAM 2:



Denis Kadias



Kerem Eren Louis Baena Claas



Miloslav Janeček Mirek Datel



Tadeáš Kadlec Ondřej Vybíral



#### CNC GROUPS

TEAM 2:



David Schaefer

TEAM 1:



Silas Schmidt



Marek Hlavička Dominik Soor



Karel Kobliha Šimon Kubálek



#### WORKSHOP GROUPS

TEAM 1:

TEAM 2:



Max Schweizer Dieter Faust



Lea Maria Harmann



Jakub Vymlátil Tomáš Hrbata



Martin Přidal Michal Uhlíř Michal Pekař

### DOCUMENTATION GROUPS

TEAM 1:

TEAM 2:



Lennart Ruscheinski



Luca Auth



Štěpán Kappl Filip Tůma



Petr Kalabis Pavel Houb



## VIDEO-DOCUMENTATION GROUP



#### Marko Pilok Timon Zelenak



#### TASKS

- 1. To create a construction, production and assembly of a scooter powered by an acu-drill.
- 2. To create technical documentation
- 3. To create programs for the CNC machines
- 4. Finish the project
- 5. Prepare the final presentation

# PLANNING

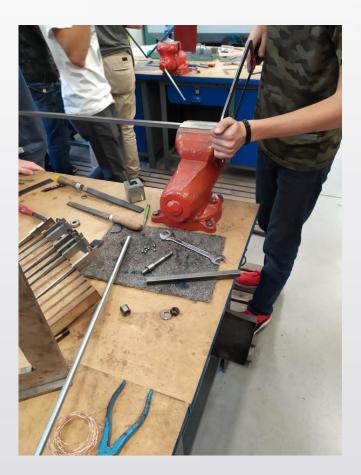
- The first thing that both teams had to do was to create a construction for the drill to be attached to the scooter
- Another task was to come up with a design for boxes which would protect the whole contruction
- We also had to design a plate with our logos
- This was a task for the whole team
- Designs were finished the other day and the work could begin

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PHOTOS

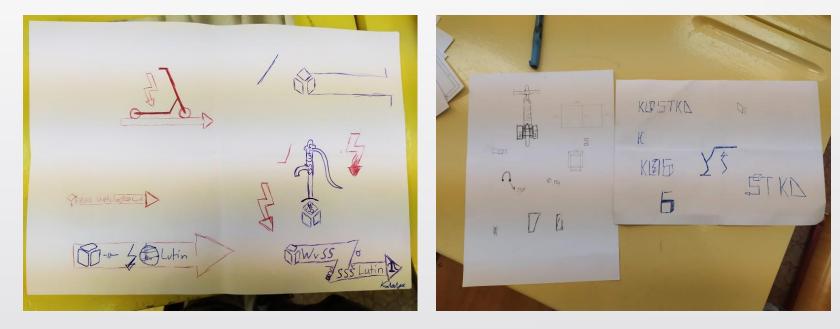






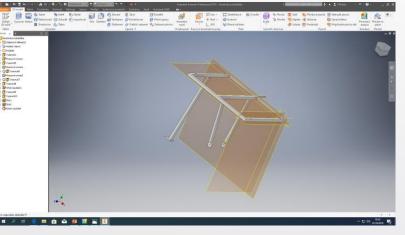
# OUR IDEAS ON PAPER

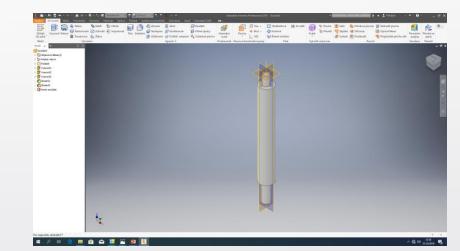
 At the begining we drew some sketches for our CAD teams, which will be converted into technical drawings for the CNC and workshop groups

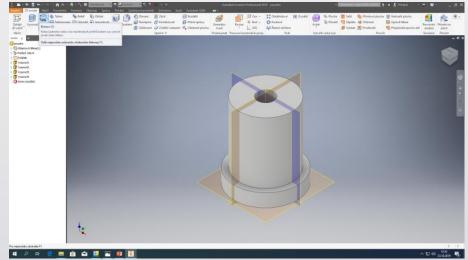


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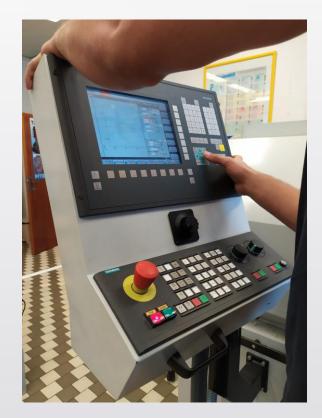




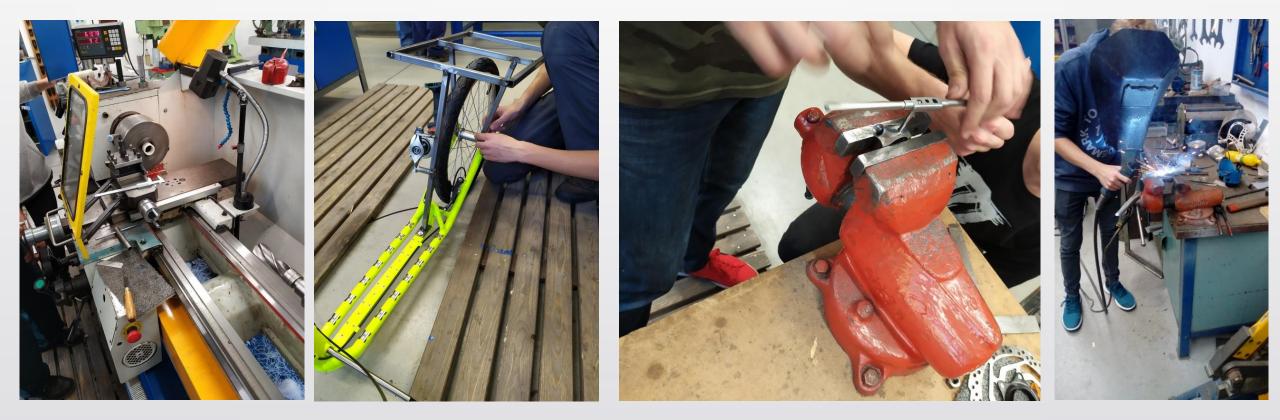
### PROGRAMING







## CRAFTING

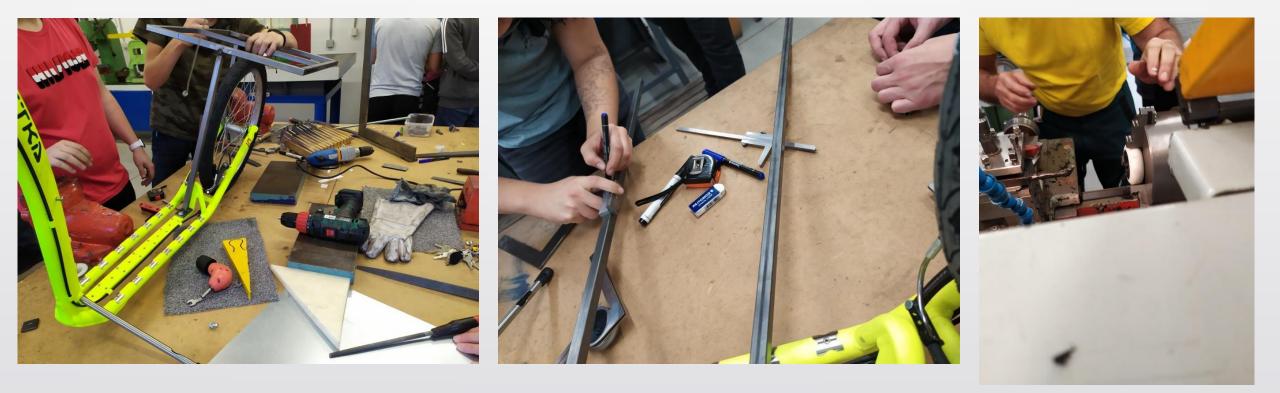


# MEANWHILE ON WORKSHOP

- Meanwhile the workshop groups were working on attaching the frame and protecting boxes for our scooters
- The workshop groups were responsible for completing the whole project but they got help from the CNC groups



## PHOTOS FROM WORKSHOP

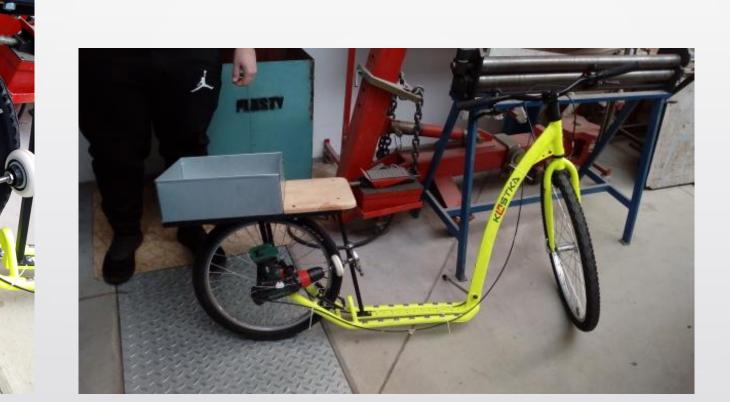


# DOCUMENTATION

- Throughout the project the documentation groups observed our work and documented it
- Meanwhile the video-documentation group worked on the video



### OUR MASTERPIECES





# THANKS TO EUROPEAN UNION

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## SPECIAL THANKS TO...

- Our management and teachers for helping us with the project
- Lutín school for inviting us
- Mr. Kenický, the IC advisor for connecting all computers we worked at.

#### FUNNY STUFF

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### AND THAT IS ALL!

#### • THANK YOU FOR YOUR ATTENTION!

