Education and Culture
Lifelong learning programme
COMENIUS

MINUTE FOR GROUP WORK
COMENIUS School Partnerships

"European CNC-Network – Train for EUROPE – RELOADED"

Meeting Description	Second Project Meeting in Lisbon (Portugal)
Meeting hosted by	CENFIM

Date / Time / Place	Thursday, 8 March, Hotel Fenix Lisboa, 10:00-11:30
Name of Workline	Workline A – Locomotive
Name of Workgroup	Group 3

Representative workgroup member	[LU] Jean-Jacques ZEIMES
Co-representative workgroup member	
Co-representative workgroup member	

Further workgroup members	[AT FUL] Andreas Wanker
	[AT FUL] Elmar Müller
	[AT FUL] Harald Falschlunger
	[AT FUL] Jakob Bramböck
	[AT FUL] Matthias Höfer
	[DK] Flemming Grønborg
	[HR] Gordana Erić
	[HR] Mislav Žokalj
	[HR] Tatjana Antić
	[IT] Ada Morello
	[IT] Daniela Vaio
	[IT] Francesca Artuso
	[IT] Michele Agati
	[IT] Romina Biava
	[LU] Paul Faber

Minute written by	[AT FUL] Heinrich Payr

Description of work progress: **Topics / Tasks / Results / Decisions / Facts of importance**	**Responsible school(s) or person(s) incl. deadlines**

The guidelines are read out.
Group representative and minutes writing are decided.
 	
A number of issues are discussed and participants come up with ideas, some more practicable than others.
 	
After some deliberation, the following decisions are reached:
 	
• Electric motors: there will be one big motor *or* two smaller ones, each driving one axle.
• Wheels could be
  o Conical with rubber surface
  o Conical without rubber surface
  o Cylindrical with rubber surface.
• Transmission:
  o Will reduction gears be necessary?
  o If so: this may be a worm screw drive.
  o A chain drive may also be practical.
  o But there will definitely be *no* belt drive.
• There will be 4 axles in 2 bogies. Two axles (in one bogie) will be driven.
• Outward design: will be decided later. Students will be invited to propose designs so that the best one can be chosen.
• Remote control: there will be one with both an ON/OFF function and speed control.
• Power supply: details will have to be clarified.
 	
A quick survey of who could do what produces the following results:
 	
• IT: electronics
• DK: transmission
• LU: bogies and wheels
• FUL: bogies and wheels
• HR: body
 	
Finally, it is stated that the drawings ought to be available at the next meeting in Slovenia (10 to 16 May).
 	
Communication could take place via Skype.
 	
The session ends at 11:30.	

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Meeting Description	Second Project Meeting in Lisbon (Portugal)
Meeting hosted by	CENFIM

Date / Time / Place	Friday, 9 March, Hotel Fenix Lisboa, 15:00-16:00
Name of Workline	Workline A – Locomotive
Name of Workgroup	Group 3

Representative workgroup member	[LU] Jean-Jacques ZEIMES
Co-representative workgroup member	
Co-representative workgroup member	

Further workgroup members	[AT FUL] Elmar Müller
	[AT FUL] Harald Falschlunger
	[DK] Flemming Grønborg
	[HR] Gordana Erić
	[HR] Mislav Žokalj
	[HR] Tomislav Kaćunko
	[IT] Francesca Artuso
	[IT] Michele Agati
	[LU] Paul Faber

Minute written by	[AT FUL] Heinrich Payr

Description of work progress: Topics / Tasks / Results / Decisions / Facts of importance	Responsible school(s) or person(s) incl. deadlines
The task of this session is to decide on the “next steps” to be taken. Mr Zeimes reminds us that in this session, we are only talking about the drawings, not the production of components. There is some discussion concerning the number of components and in what way they should be grouped together. Eventually, the following solution evolves and is agreed upon:	
1. Design proposals for chassis, electric motor(s), transmission	DK, 10 April
2. Specifications for electronic devices to be sent to DK	IT, 10 April
3. Design of bogies, wheels, axles	LU, 18 April
4. Ideas / sketches for body design	voluntary students from all schools in the group
5. Vote for chassis, transmission, electric motor(s)	All schools in the group, 18 April
As there are no objections to this schedule, the session is closed at 16:20.	

Guidelines for your group work

A. As we have planned to build four different locomotives, you have now come together with six different delegations in your group.
The designing, planning and production of the locomotive will be done **completely independent** from the other groups.
In order to make it easier for you to start working in that work line, it might be helpful to have a look at the **paragraphs of our resolution,** which deal with the manufacturing of the locomotive.

> *Excerpt from the resolution:*
>
> *6. The locomotive and each wagon should have the same measurements as already defined in the "Train for EUROPE"-project (width of 100 mm and a maximum length of 400mm for the locomotive and 300 mm for the wagons).*
>
> *7. The different parts of the locomotive will either be the result of common planning and manufacturing based on work groups or planned and manufactured by schools or partners individually.*
>
> *8. The different locomotives will have to be designed with special focus on speed, power, design and cost efficiency.*

Apart from what the **resolution says and what measurements** are concerning (check extra copy), you are **totally free** in your work.
Of course, it would be perfect if in Portugal you could already agree on the question of...
... type and size of engine
... gear transmission and shaft mechanism / gear unit
... number of (driven) axles
... materials used
... outward appearance/outward design
... (remote) controlling
... and whatever will be important for your further steps...

B. **Coordinate** all the details as far as possible in order to make further work successful and joyful. Apart from the technical issues, define a clear **structure of your further work progress.**
(Who will do what until when...?)