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Working Paper No. **HDH-07-08**  
(7th HDH meeting, 12 to 14 October 2011)



# **GRPE Informal Group on Heavy Duty Hybrids**

**7th HDH, Vienna, 12 to 14 October 2011**



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# Contents

- **Research program**
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# UNITED NATIONS **Task List for HDH Research Program**

- **To accommodate with its mandate, HDH will conduct a research program on the major elements of the HILS method. The research program covers the following five tasks:**
  - **Task 1: Investigation and modification, if applicable, of the Japanese HILS model and interface including a proposal for a verification method w/o vehicle testing**
  - **Task 2: Investigation and modification, if applicable, of the HILS component testing**
  - **Task 3: Extension of HILS to non-electrical hybrids, which are currently not covered by the Japanese test procedure**
  - **Task 4: Inclusion of PTO operation, which normally takes place outside the test cycle**
  - **Task 5: Development of WHVC weighting/scaling factors to represent real world vehicle operation**



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# HDH Research Program

## ➤ Project Overview

- **At the 6th HDH meeting, the following project plan was adopted**
  - **TU Vienna will cover tasks 1 and 2; budget by OICA**
  - **TU Graz will cover tasks 4 and 5; budget by EU COM**
  - **Chalmers will cover task 3 and contribute to tasks 1, 4 and 5; budget shared between OICA, Sweden and Swedish Energy Agency (SEA)**
  - **TNO will assist EU-COM in managing the program (originally TRL)**
  - **Total budget is 265 k€**

## ➤ Status

- **All contracts have been signed**
- **Work program is slightly behind schedule due to problems with contracts getting signed**



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## Cost Overview

Task	TU Vienna	TU Graz	Chalmers
1	40 k€	10 k€	4 k€
2	45 k€	-	-
3	-	-	47 k€
4	-	28 k€	2 k€
5	-	41 k€	3 k€
Travel	15 k€	15 k€	15 k€
<b>TOTAL</b>	<b>100 k€</b>	<b>94 k€</b>	<b>71 k€</b>
Budget by	OICA	EU-COM	OICA: 25 k€ Sweden: 19 k€ SHC: 27 k€



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# Roadmap & Project Planning

Task	2 0 1 1												2 0 1 2												2 0 1 3												2 0 1 4					
	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06
Total project timing	[Grey bar]												[Grey bar]												[Grey bar]												[Grey bar]					
6th meeting						X																																				
HILS model verification																																										
HILS component testing verification																																										
WHVC weighting & scaling factors																																										
PTO operation																																										
Extension to non-electric hybrids																																										
Assessment of chassis dyno procedure																																										
Assessment of powerpack testing																																										
7th meeting											X																															
8th meeting												X																														
9th meeting																								X																		
Interim report																																										
Validation test program 1																																										
10th meeting																																										
Validation test program 2																																										
Drafting text for gtr n°4																																										
Evaluation & conclusions																																										
11th meeting																																										
12th meeting																																										
Final report																																										
13th meeting																																										
Final meeting																																										
GRPE adoption																																										
WP.29 adoption																																										

- Roadmap has been modified to reflect delay of research program
- Timing for WP.29 adoption not affected