

10th R&T Days 2019
on "Materials and Structures: High Performance at Competitive Cost "
 at CETIM, Senlis

Agenda

Please consult the event webpage for latest updates: www.rt-days.space

NOVEMBER 14th, 2019

8h00 - 9h00	Registration
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9h00 - 9h05	Joining the Amphitheater – Welcome
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Introduction Sessions

Chairpersons: Gérard OURY, CETIM & Ludger FROEBEL, ArianeGroup

Session 1	Introduction		
9h05 - 10h00	Welcome Address	Daniel Richet	CETIM
	Opening 10th R&T Days	André-Hubert Roussel Hervé Gilibert	ArianeGroup

10h00 - 10h30	Coffee Break
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Session 2	Metals and Composites		
10h30 - 11h00	End to End Additive Manufacturing	Raphael Salapete	ArianeGroup
11h00 - 11h30	Automated Fiber Placement: Enabling Composite Structures	Bruno Desmars	ArianeGroup
11h30 - 12h00	Make our Launchers Lighter	Vincent Le Gallo	ArianeGroup

12h00 - 13h30	Buffet Lunch
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Parallel Working Groups Session

Session 3	WG1: Design and Industrialization		WG2: Manufacturing and Production		WG3: Improving Structural Index	
Chairpersons	Guy LARNAC, ArianeGroup Xavier COQUERET, Université Reims Champagne Ardennes		Frédéric LAITHIER, ArianeGroup Michael Kupka, DLR		Marie JACQUESSON, CNES Jochen ALBUS, ArianeGroup	
13h30 - 14h00	Numerical metallurgy – how to select the best single crystal superalloys candidates from 10¹⁵ combinations.		Cold Gas Spraying for Ultra-Low Cost Engine		FLINT – Launcher Innovation by Functional Integration	
	Michael Piellard	Safran Tech	Steffen Beyer	ArianeGroup	Patrick Gerding	ArianeGroup
14h00 - 14h30	Cost Reduction on Nozzles for Solid Propulsion		Pushing the Limits of Additive Manufacturing by Numerical Simulation		Manufacturing progress with thermoplastic material – a multi-sector overview	
	Gabriel Cotrait	ArianeGroup	Loïc Debeugny	ArianeGroup	Dr Damien Guillon	CETIM
14h30 - 15h00	Biobased Resins for Sustainable Composite Solutions		Innovative mechanical processes for demanding industries		LH2 Composite Cryogenic Tank	
	Gabriel Foyer	ArianeGroup	Lionel Cancade	CETIM	Erwann Le Goff	ArianeGroup

15h00 - 15h30

Coffee Break

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15h30 - 16h00	Development of Combustion Chamber Materials		On recent developments in inline quality assurance for tape laying processes		Cryogenic CFRP Tank for Oxygen	
	Torsten Sebald	ArianeGroup	Lars Brandt	DLR Augsburg	Diana Gaulke	ArianeGroup
16h00 - 16h30	Elastomeric seals and gasket flange behaviour characterization for service in arctic environment		Liquid Rocket Engines CMC Nozzle Extensions		Thermoplastic Liner for Helium Tanks	
	Stéphane Javanaud	CETIM	Thierry Pichon	ArianeGroup	Nathalie Linck	ArianeGroup

17h30	Start of CETIM Facilities Visit
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19h00	Departure to Gala Dinner
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20h00 - 23h00	Gala Dinner
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NOVEMBER 15th, 2019

08h00	Registration Opening
08h30 - 08h45	Joining the Amphitheater - Welcome

Chairpersons	Torben HENRIKSEN, ESA & Ludger FROEBEL, ArianeGroup		
Session 4	Materials and Structures: Appraisal by Space Agencies		
8h45 - 9h10	CNES vision	Marie Jacquesson	CNES
9h10 - 9h35	DLR Vision	Susanne Heckrodt	DLR
9h35 - 10h00	ESA Vision	Tommaso Ghidini	ESA
10h00 - 10h25	CEA vision	Guillaume Savignat	CEA

10h25 - 10h55	Coffee Break
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Chairpersons	G�rard OURY, CETIM & Ludger FROEBEL, ArianeGroup		
Session 5	New Design Methods		
10h55-11h20	Design for Re-usability: Damage Tolerance and Structural Health Monitoring	David Barnoncel	ArianeGroup
11h20 - 11h45	How to Develop Faster, Cheaper and more Efficient Launcher Structures?	Javad Fatemi	AIRBUS DS NL
11h45-12h10	Advanced Joining and Bonding Techniques for Composite Launchers Structures	Markus Quadt	ArianeGroup
12h10 - 12h35	Cost-Effective Industrialization - the FSW Example	J�r�me Touzard	ArianeGroup
12h35 - 13h00	Innovate Differently: the Proof by Various Industrial Examples	Vincent Caulet	CETIM

Session 6	Conclusion on R&T		
13h00 - 13h15	Call for Partnership and Proposals 10th R&T Days Wrap-Up and Conclusion	Philippe Briant Ludger Froebel	ArianeGroup

13h15 - 14h30	Farewell Lunch
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15h00	Start of CETIM Facilities Visit
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