

Global Technology Innovation Forum and Expert Group

IEA Experts' Dialogue on Effecting the Sustainable Transition of Iron and Steel

Paris, 29 March 2019



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Context



- The steel industry invests 5 - 6 billion US\$ on developing technologies, processes and products as part of its R&D programmes each year
- In 2014 the worldsteel board identified a need for boosting the competitiveness of the steel industry through coordinated steel industry R&D or innovation programmes
- Acting as facilitator, worldsteel will encourage members to jointly develop new technologies, processes or products through technical agreements among members.
- A recent example of such a successful collaborative work is the CO₂ Breakthrough initiative.

Purpose

- Investment in R&D is a strategic must and vital for organisations to meet the demands of their customers
- The steel industry is facing significant internal and external challenges, addressing climate change, and the challenges and opportunity of the circular economy and fierce competition from other materials.
- Tackling these challenges urgently requires efficient and effective use of precious R&D investment, and avoidance of overlaps or and gaps in R&D programmes.
- worldsteel members have the process expertise to enable process adaptation for new technologies, reduce development cycles and time from lab to industrial scale



Rules for participation in GTIF

- To protect the interests of participants, it is vital that the rules of engagement and IP are clearly defined and adhered to from the outset; such as:



Sign confidentiality and NDA



Willing to share

worldsteel
ASSOCIATION

Open to all members investing
>US\$50M in R&D



Focus: Pre-competitive and / or
commercially available projects



Patents and copyrights belong
to all participants of the project
as agreed in advance



worldsteel will disclose only a
summary report on funds

Boundaries

The forum covers all areas of innovation

Customer driven needs and R&D challenges, overlaps or gaps in the steel industry, for example.

Breakthrough Technology

Decarbonisation

Energy storage

Carbon capture & storage

Carbon capture & utilisation

Incremental Improvements

Reduction process improvements

Raw material quality improvements

Energy generation & efficiency

Yield improvement

Process integration

Jointly develop customer needs identification for product type, shape, size, properties.

Bring technologies, processes, products to market in shortest time possible.

Deliverables of the GTIF Innovation Platform



Confidential annual R&D reports



Annual meeting



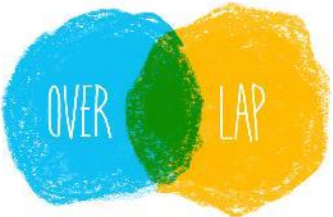
Provides an overview of global R&D plan to TRL 3



Identification of sources for innovation / funding opportunities



Survey industry innovation needs



Reduces overlap



Enables expert Gap Analysis



Enables partnership and networking

Projects tracked by GTIF - 2019

Project #	Investment (M US\$)	Comments
1	6.3	5 Patents
2	7.3	1 Patent
3	0.1	1 Patent
4	71.7	21 Patents
5	0.28	6 Patents
6	UNDISCLOSED	TRL 8
7	UNDISCLOSED	TRL 8
8	8.3	
9	400	1 Patent
10	30	
11	6	



Increasingly projects are partnerships, between steel companies and increasingly along the value chain

The Global Technology Innovation Forum ...

- An industry initiative to boost and coordinate R&D
- Brings together steelmakers to discuss and resolve innovation challenges
- Covers breakthrough and incremental improvement projects
- Surveys evolving innovation needs
- Seeks to avoid overlap, and to encourage and facilitate partnerships
- Tracks over \$500M of innovation projects



Thank you for your attention.

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