

# The Way Forward Panel

**- We need researchers -**

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- We have been losing population of researchers in the CMNS field for more than ten years, gradually (rapidly !?).
- In Japan we have now about ten research groups actively working in the CMNS field, and exchanging information mainly at annual meetings of Japan CF-Research Society, and publishing Proceedings in English on our open Web-site (<http://jcfrs.org>).

	<b>E</b>	<b>G</b>	<b>D</b>	<b>P</b>	<b>B</b>	<b>T</b>
T. Mizuno [ <i>Hydrogen Engineering Application &amp; Development Co.</i> ]	●	●				
S. Narita, H. Yamada, <i>et al.</i> [ <i>Iwate U.</i> ]	●	●	●	●		
J. Kasagi, <i>et al.</i> [ <i>Tohoku U.</i> ]					●	
H. Miura						●
K. Tsuchiya, <i>et al.</i> [ <i>Tokyo National College of Tech.</i> ]		●				●
H. Numata [ <i>Tokyo Inst. of Technol.</i> ]	●					
T. Sawada [ <i>Nihon U.</i> ]						●

Electrolysis (**E**), Gas loading (**G**), Discharge (**D**),  
Permeation (**P**), Beam-target interaction (**B**), Theory (**T**)

	<b>E</b>	<b>G</b>	<b>D</b>	<b>P</b>	<b>B</b>	<b>T</b>
<b>Y. Iwamura, S. Tsuruga and T. Itoh</b> <i>[Mitsubishi Heavy Industries]</i>				●		
<b>H. Kozima &amp; M. Tada</b> <i>[Cold Fusion Research Lab.]</i>						●
<b>T. Hioki, N. Takahashi, S. Kosaka, S. Ohshima &amp; T. Motohiro</b> <i>[Toyota Central R &amp; D Labs.]</i>		●		●		
<b>N. D. Cook</b> <i>[Kansai U.]</i>						●
<b>A. Takahashi, A. Kitamura, et al.</b> <i>[Technova Inc.; Kobe U.]</i>		●				●

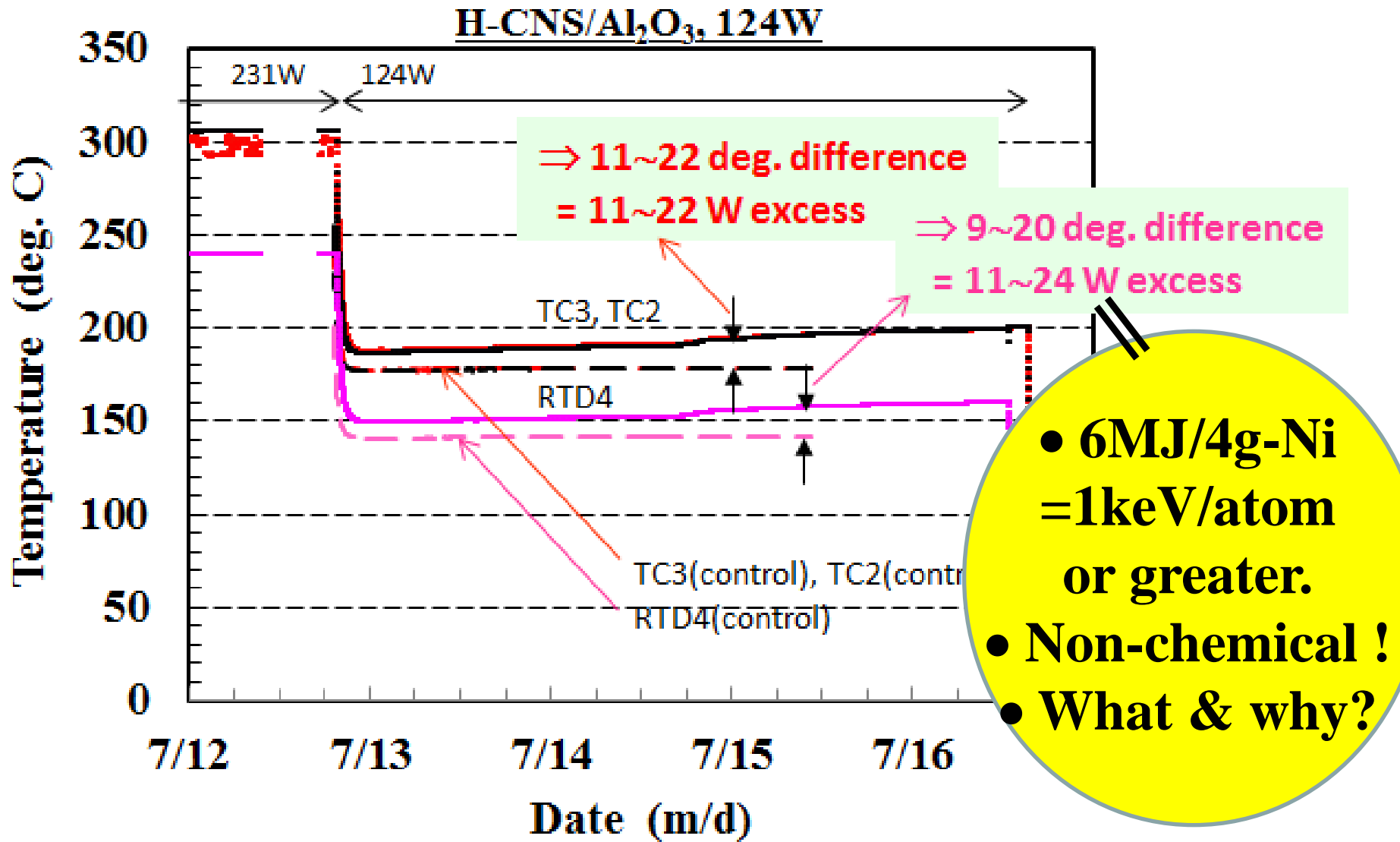
Electrolysis (**E**), Gas loading (**G**), Discharge (**D**),  
Permeation (**P**), Beam-target interaction (**B**), Theory (**T**)

Now we have a number of experimental groups which have obtained positive data of excess heat for Pd-D and Ni-H systems.

But now, the underlying physics of the phenomena is yet to be explained.

*e.g., ....*

From: Kitamura, Takahashi, *et al.*, Thursday morning session, ICCF18

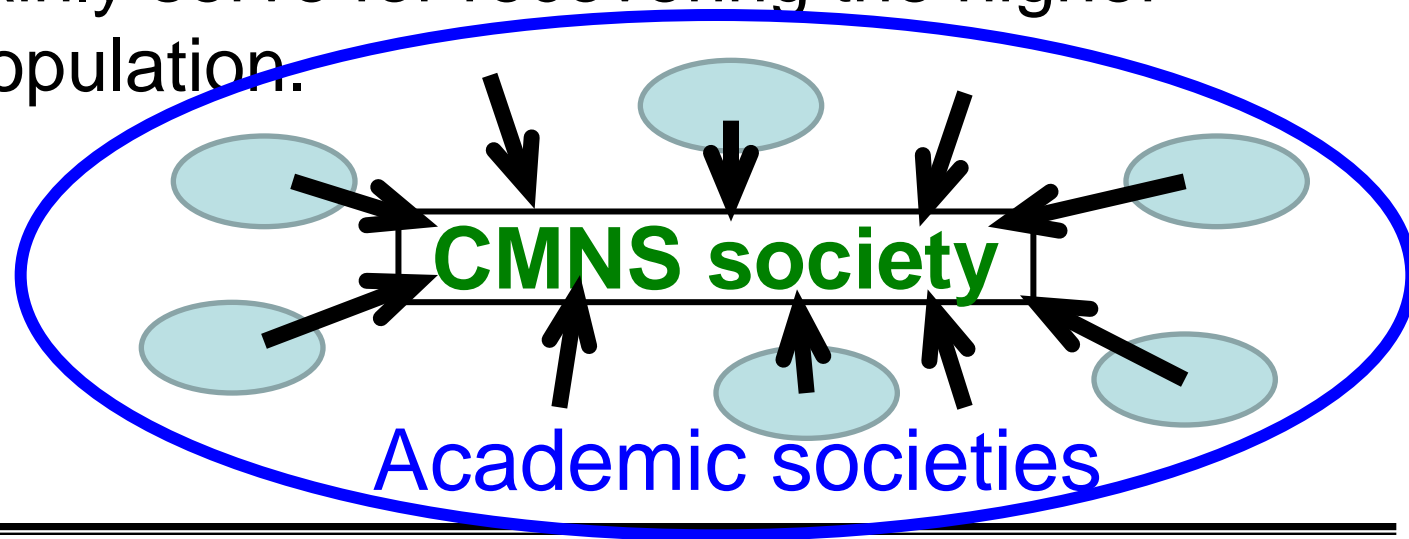


Now, we may be at the start line of the way to apply the EH effect to a variety of technologies, *e.g.*,  
green and portable energy devices,  
remediation of radioactive wastes,  
....

To proceed, we need to get support:

- from professional researchers in other fields;  
by reporting / presenting
- not only **reliable**, **repeatable** and **concrete** results of the excess heat / transmutation data
- but also the detailed experimental **procedures** to enable replication experiments.

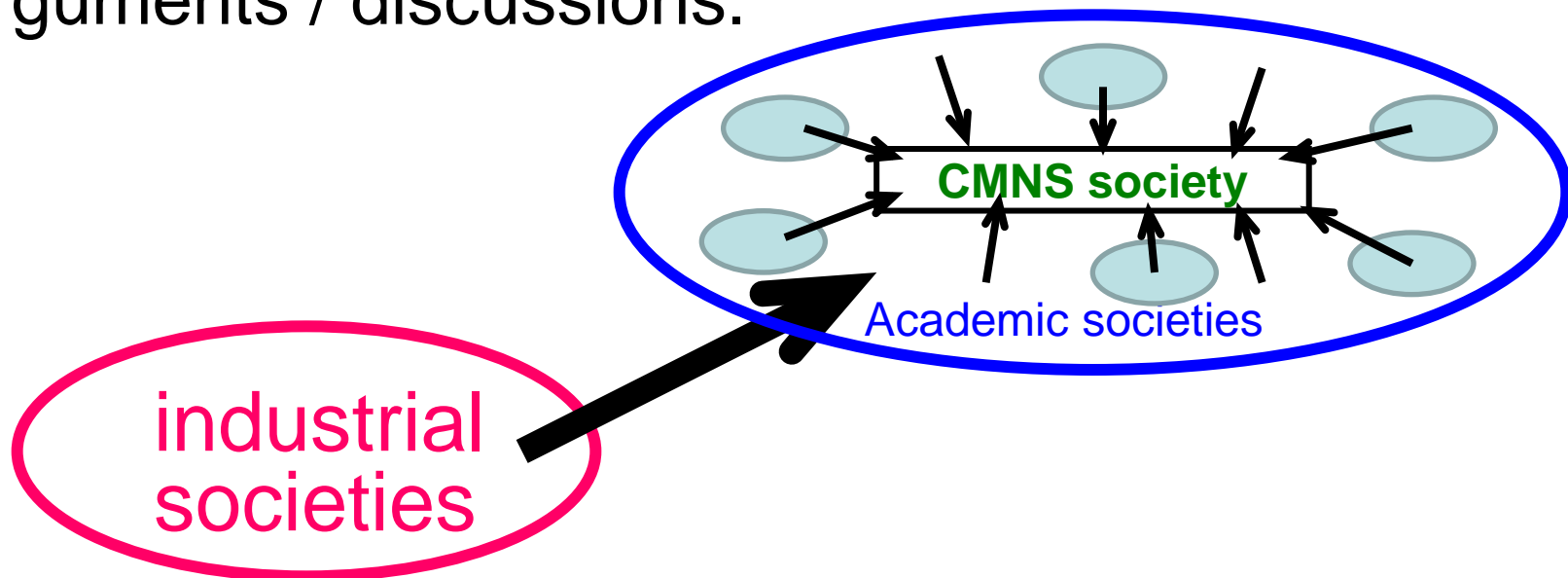
This will certainly serve for recovering the higher researcher population.





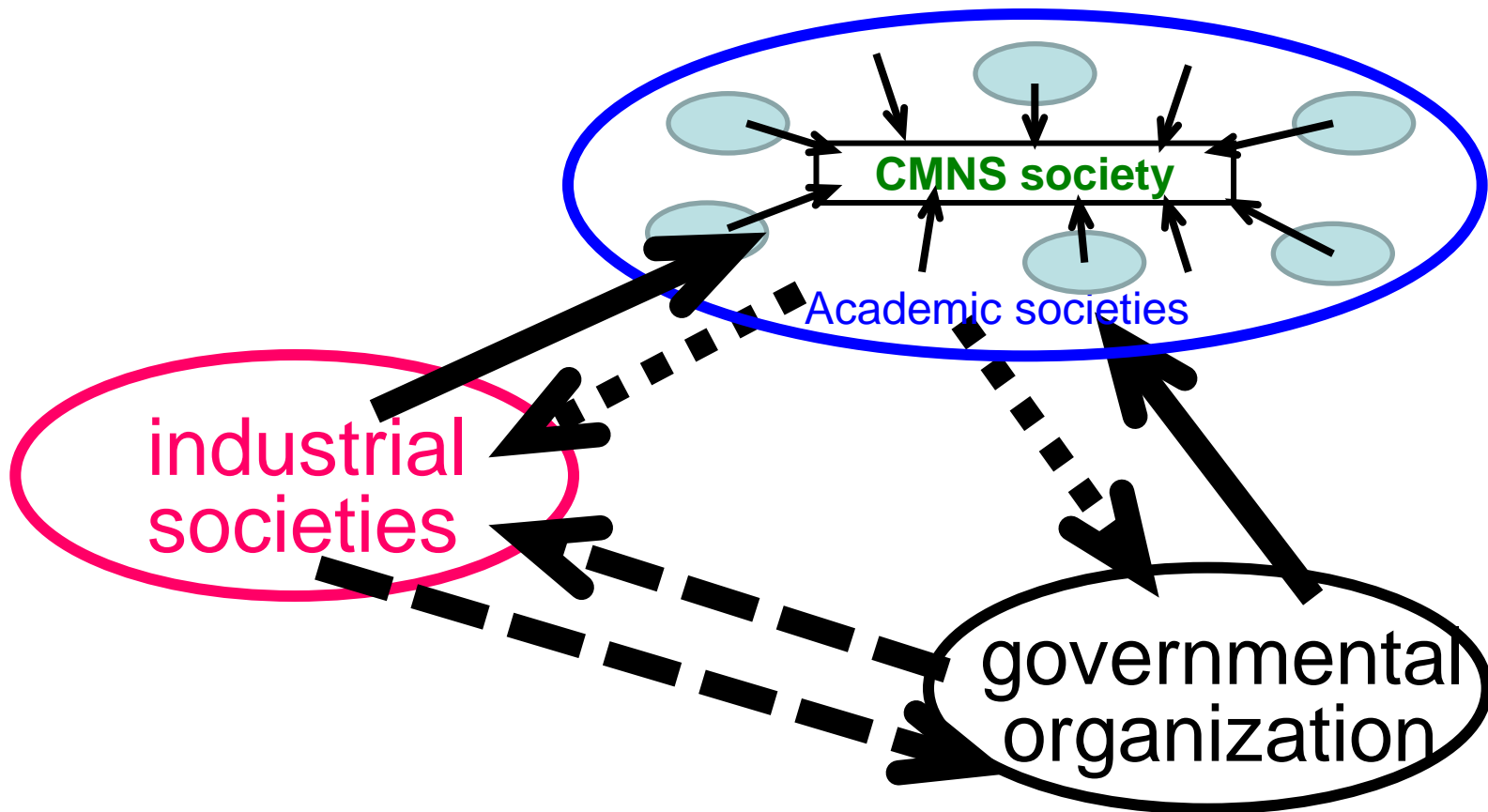
support also:

- from industries; by demonstrating  
-highly attractive and **visible** results of the emerging  
excess heat / transmutation by the actual  
apparatuses,  
-rather than very precise / detailed assertions  
/ arguments / discussions.



support also:

- from governmental organization;
- with backups from both the academic societies and industrial societies.



We need all the above items.

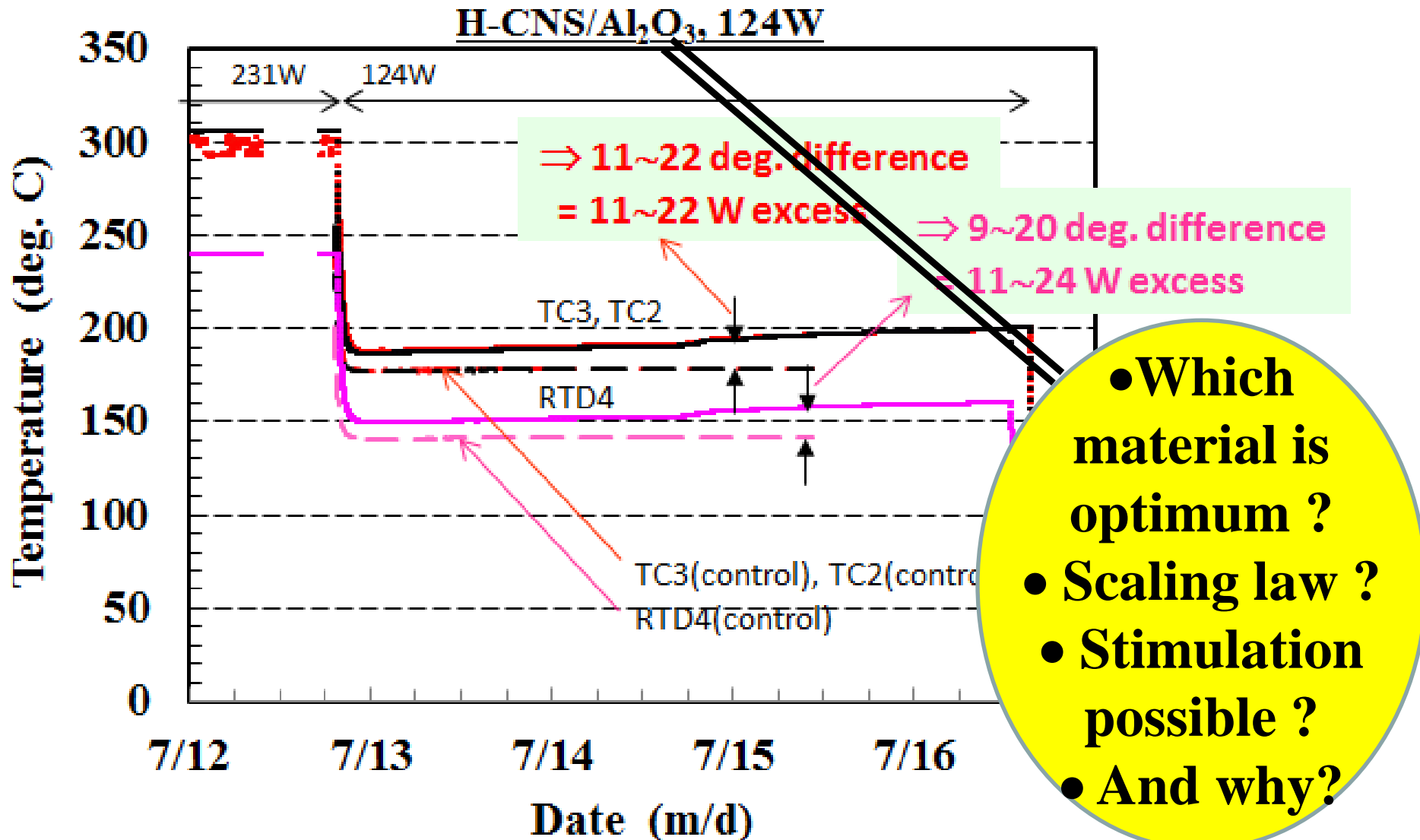
Fortunately, these items would interact with each other to yield **positive feedback** effect;

- Advancement in an item would promote additional advancement in the others.

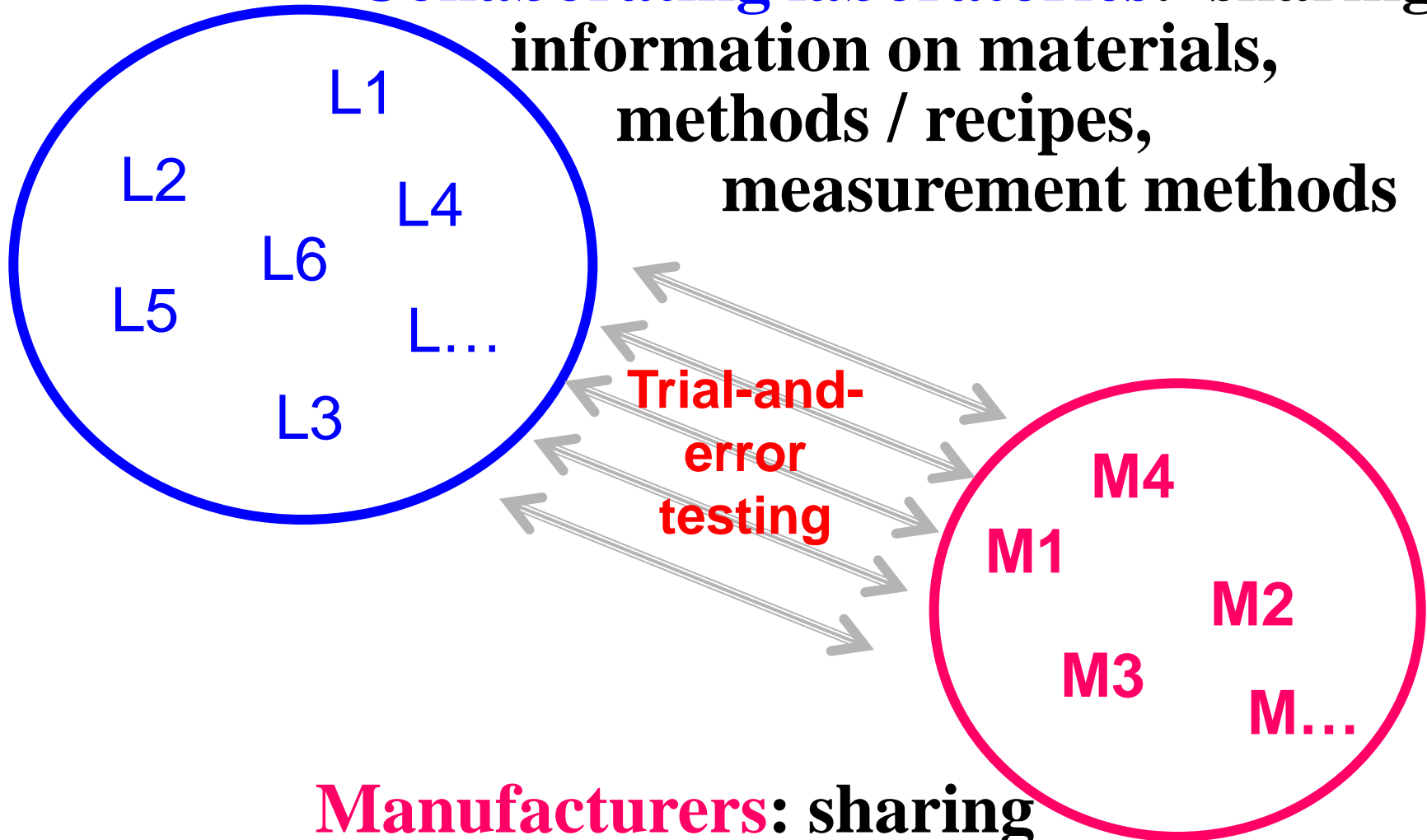
The CMNS team at Technova Inc. is now looking for a possibility to make a **R&D consortium**, especially based on our recent experiments with very hopeful EH results\*.

\*Kitamura, Takahashi, *et al.*, Thursday morning session in this Conference, ICCF18.

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**Collaborating laboratories:** sharing information on materials, methods / recipes, measurement methods



**Manufacturers:** sharing information on experimental results

- In the laboratories we need fresh and ambitious researchers.
- Recently, young researchers are apt to choose **nonpioneering** research subjects in **nonventurous** fields.
- Regrettably, this is necessary for steady production of **acceptable** papers, which is necessary for making career to be **promoted**.
- We need researchers who can work aggressively **without worrying about conventional career making**.





**Conclusion:**

**Experienced / Senior** researchers  
who have achieved a certain success  
and therefore have **little** interest  
in further promotion  
might be more appropriate to call / invite  
than “young” researchers.