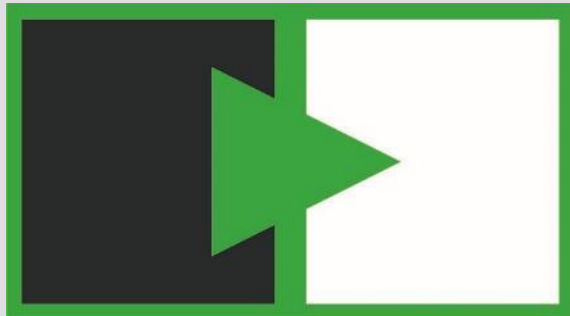


We should be all online,
please present your company name and yourself in the chat



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WELCOME

to

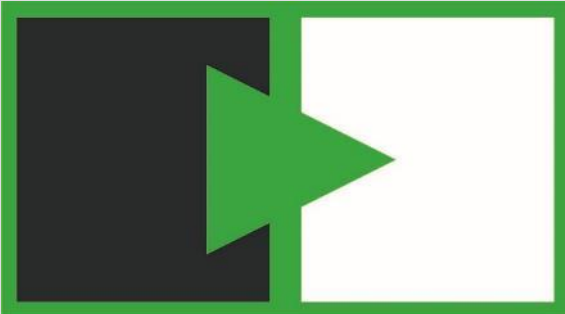
14th The Hermes Standard Initiative meeting

Nepcon Shenzhen & Online, November 6th 2024

Markus Mittermair

Chair of The Hermes Standard Initiative





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**Markus Mittermair from Rehm will
guide you through the Meeting**

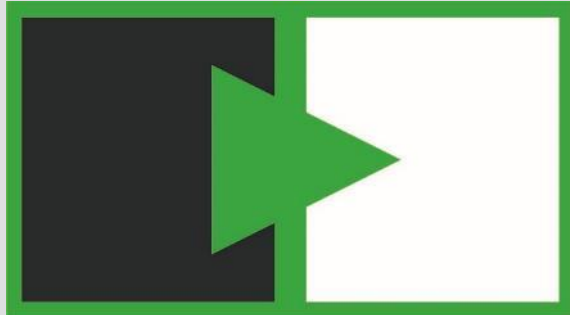
**A thank you to
Hyawin**

who organized the room and catering for us

Nepron Shenzhen & Online, November 6th 2024

Regarding documentation the meeting will be recorded!





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Agenda

14th The Hermes Standard Initiative meeting

Nepron Shenzhen & Online, November 6th 2024

The Hermes Standard Initiative meeting @ <u>Nepron</u> & Microsoft Teams		
Welcome <ul style="list-style-type: none">Recap 13th Meeting in April 2024	Markus Mittermair Chair of the Initiative	14:00
Workgroup "Hermes Use-Cases" Best Practice <ul style="list-style-type: none"><u>FailedBoard vs SubBoards</u> State Attribute<u>BoardForecast</u>	Markus Mittermair Chair of the Initiative	14:20
Workgroup "Hermes Use-Cases" <ul style="list-style-type: none">Hermes Side Channel (HSC) Customer attributes	Thomas Marktscheffel ASMPT	14:50
<u>QueryHermesCapabilities</u> and <u>SendHermesCapabiliti</u> <ul style="list-style-type: none">Supervisory Service Description is not specified	Markus Mittermair Chair of the Initiative	15:20
Organizational issues & decisions <ul style="list-style-type: none">Next meeting	Markus Mittermair Chair of the Initiative	15:40
<ul style="list-style-type: none">Wrap-up and end of meeting	All participants	16:00



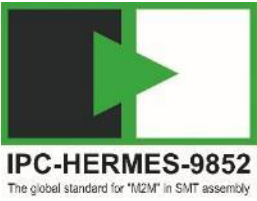
The Hermes Standard Initiative

A broad foundation across the entire industry assures global acceptance

4IR.UK BRITISH SYSTEMS	BESI	Essemtec	HB Automation	KIC	Nordson ASYMTEK	RG Elektrotechnologi	SMT Thermal Discoveries	Test Research Inc. (TRI)
6TL Engineering	Bright Machines	EUNIL	Heller Industries	KOH YOUNG Technology	Nordson Test & Inspection	SAKI Corporation	SolderStar	Universal Instruments
ACHAT5 Engineering	BTU	eXelsius	IBL-Löttechnik	kolb Cleaning Technology	NSW Automation	Scheid IT	Sonic Technology	VISCOM
allSMT	CKD	FAMECS	ILJIN	KULICKE & SOFFA	NUTEK	SEHO Systems	SPEA S.p.A.	ViTrox
Amtest	Cencorp	FENIX	Innomelt	KURTZ ERSA	OMRON	SEICA	STPGroup	WEC
ASMPT SMT Solutions	CTI Systems	FLEXLINK	IPTE	LPKF Laser&Electronics	OSAI	SEICA & SEICA automation	Sunnda Technology Co.,	YAMAHA MOTOR EUROPE
Asscon	CTS	GKG	ITW EAE	Magic Ray Technology	PARMI	Shenzhen Desen	Sunjsong Techonology	YJ LINK
Assembly-Tek	Digitaltest	Göpel electronic	JAPAN UNIX	Masmec SPA	PEMTRON	Shenzhen Yongxinde	SYNEO	YXLON
ASYS Automatisierungs	ECD	HANWHA	JOT Automation	MIRTEC	Rehm Thermal Systems	SICK	SYSTECH Europe GmbH	
AUTOMOCION	Ecopmin Technologies	Hayawin	Keysight Technologies	MYCRONIC	REJOINT	SIEMENS	TAKAYA Corporation	... and counting...

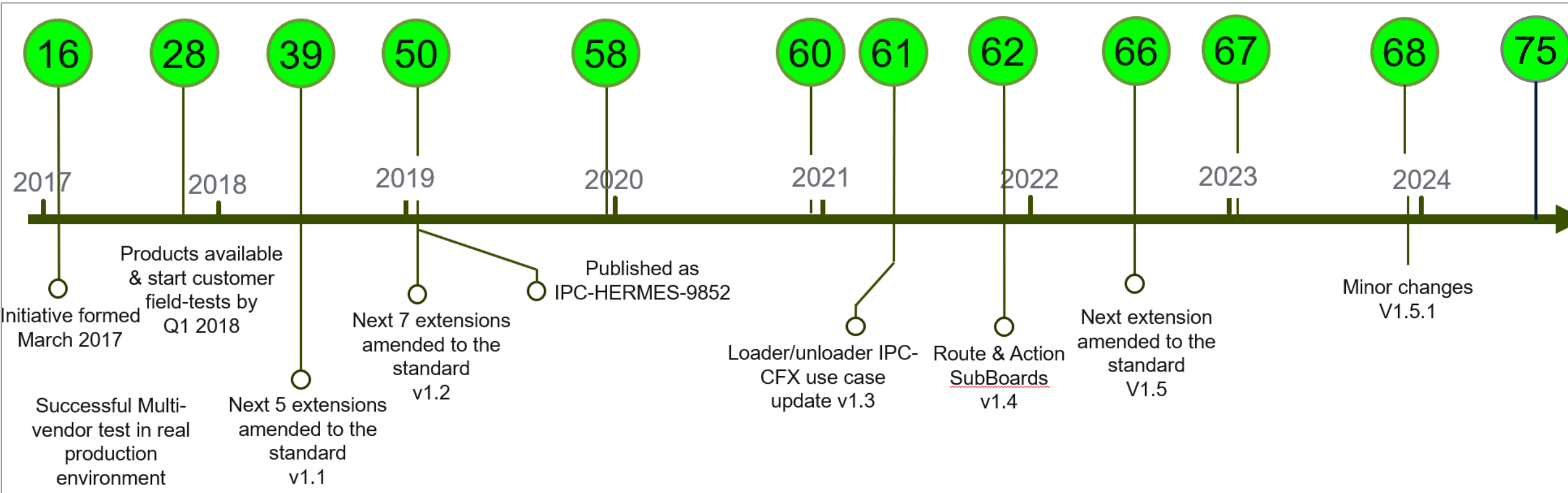
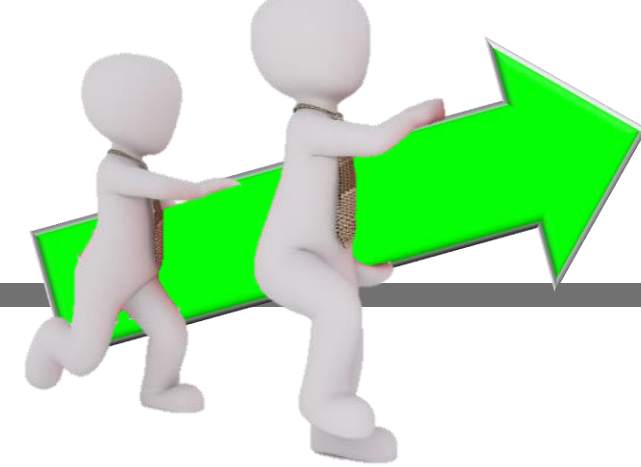
Current **75** members of the initiative as per November 2024

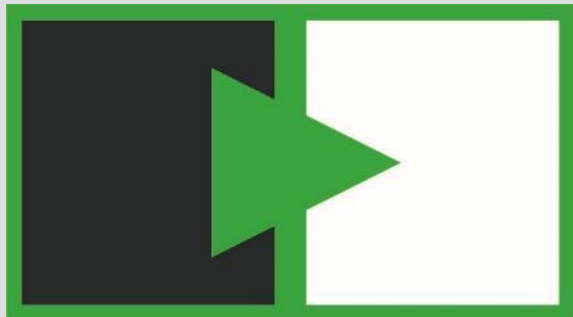




The Hermes Standard Initiative

Start simple & grow fast





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What happened since last meeting

Apex April 2024 Anaheim





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Version 1.6 available on The Hermes Standard Initiative website:

- **The format changed because it corresponds to the IPC formatting.**



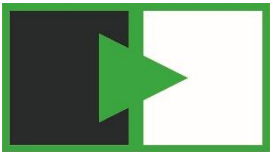
Active Working Group Hermes Use Cases

guided by Thomas Marktscheffel ASMPT

- **6 Meetings 24.04, 05.06, 26.06, 17.07, 07.08, 18.09**

ASMPT	Tom Marktscheffel
ASYS	Kai Kammers
ERSA	Moritz Floder
Nano Dimension / Essemtec	Bruno Müller
IPTE	Tom Geurts
Mycronic	Peter Sundström
Rehm	Markus Mittermair
Scheid IT	Markus Scheid
Sick	Paul Langenbacher
MMT / SYNEO	Vincent Levannier

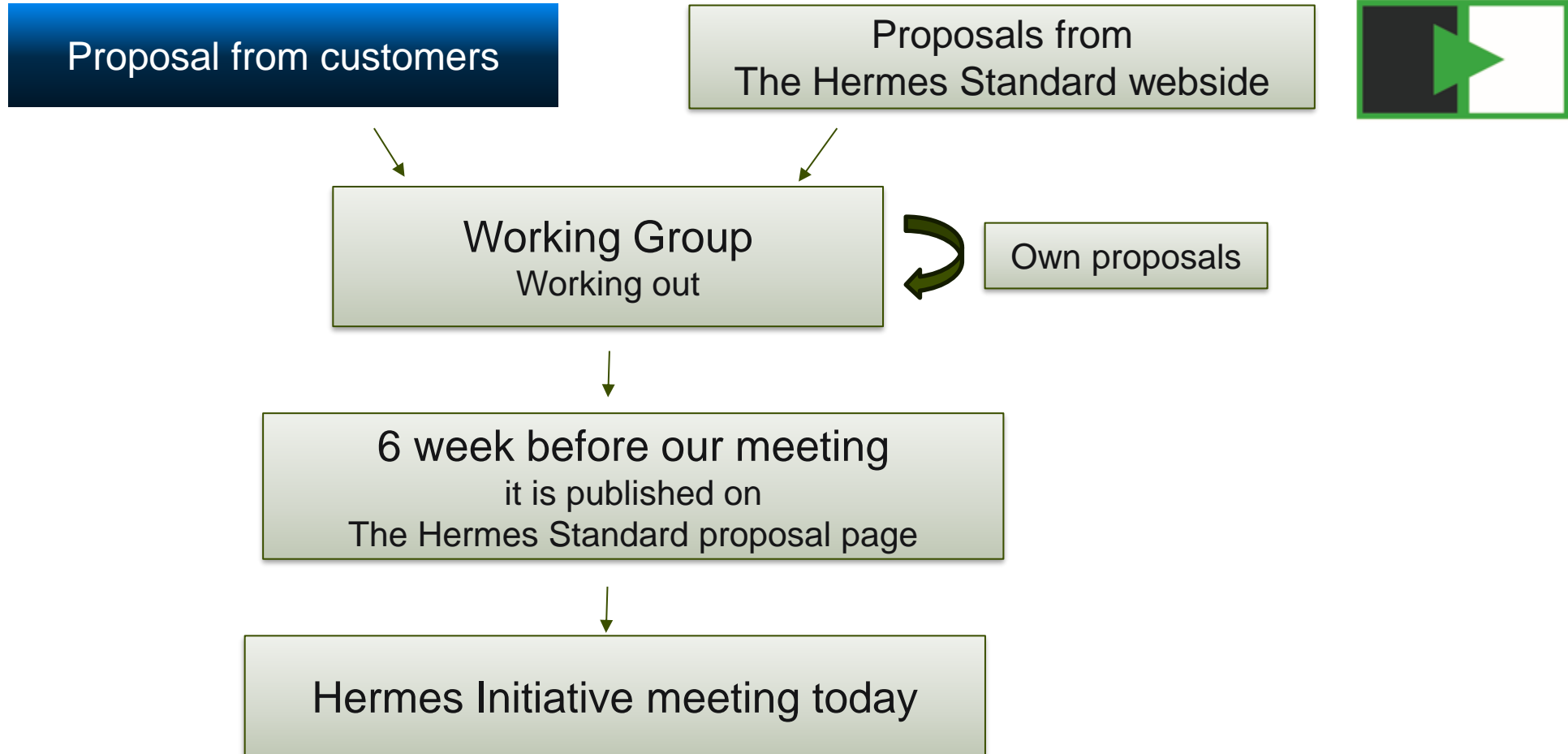




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Working Group

How does it work from the perspective of The Hermes Standard members



Working Group

How does it work from the perspective of The Hermes Standard members

Working Group
Working out

- **Working platform of The Hermes Group is IPC Work, only the working group members has access to it**
- **Everybody is invited, let us know at the end of the Meeting (responsible Thomas Marktscheffel, Markus Mittermair)**
- **The rule to keep performance and productivity of the team up, there should be a certain continuity in participation – not every workgroup meeting needs to be attended, but the majority of these meetings should be attended.**

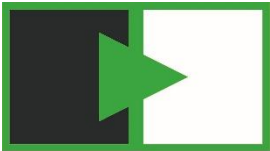
Work Group:

Hermes Use Cases

New Document 1.2 Best Practise

Markus Mittermair, Rehm Thermal Systems GmbH





Workgroup “Hermes Use-Cases” Best Practice

3.2.8 Transfer Subboard

3.2.8.2 FailedBoard vs SubBoards State Attribute

- Machines that handle entire objects and do not deal with subboards...
- Machines that handle subboards individually - like laser marking or routing machines – should make use of the SubBoards State attribute to process subboards according to its state (like „bad-marking“ Failed boards or depanelling Good boards only).

SubBoards State data should not be used for handling/process decisions of the entire object. These decisions should be based on the FailedBoard, Route or Action attributes.

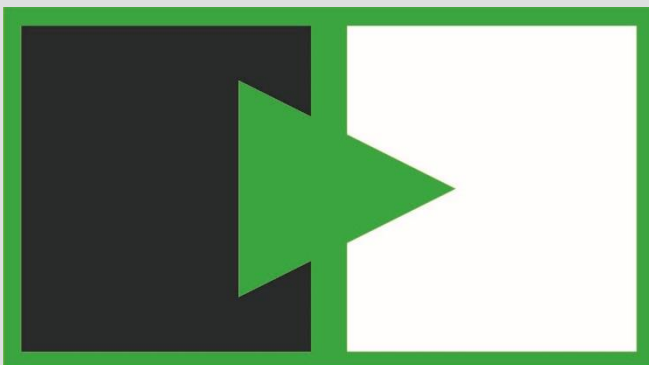
Workgroup “Hermes Use-Cases” Best Practice

3.2.10 Expediting Machine Response to Upcoming Changes 3.2.8.2

When a machine starts processing a board, this machine should send a BoardForecast message – either forward a previously received BoardForecast message or **otherwise** create a BoardForecast message with the HERMES data of the board that is currently being processed.

In other Words

BoardForecast should be send with every board to inform the downstream machine as soon as possible.



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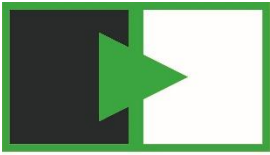
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Work Group:

Hermes Use Cases

Thomas Marktscheffel, ASMPT GmbH & Co. KG





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Hermes Side Channel: Motivation

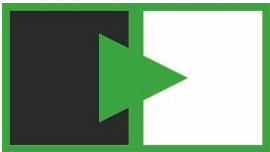
Hermes provides a point-to-point communication: Simple protocol, but with some limitations

- Limited message size to allow for implementation on PLCs with limited memory
 - certain data cannot be transferred, e.g., SubBoards
 - Custom attributes cannot be added due to risk of overloading Hermes BoardAvailable

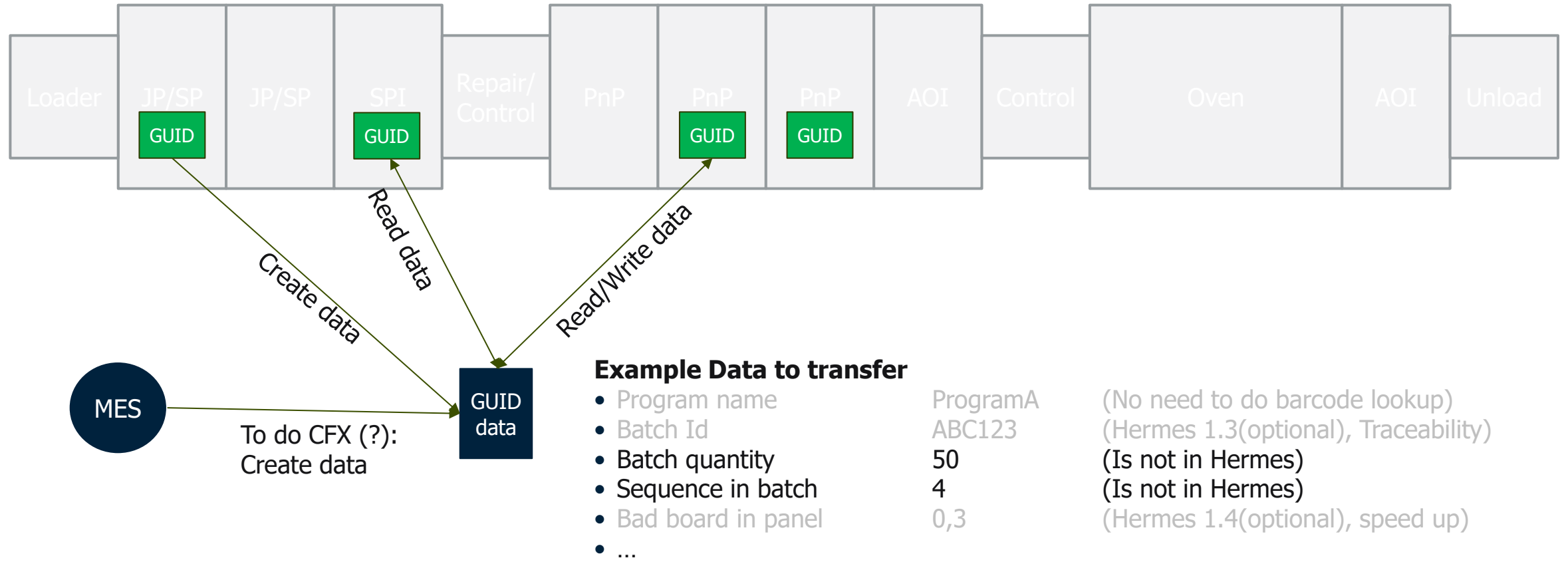
More and more customers are requesting SubBoards support that exceeds Hermes message size

Customers are asking for Hermes-based solutions that require custom attributes





Hermes Side Channel: Overview

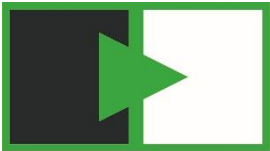


Example Data to transfer

• Program name	ProgramA	(No need to do barcode lookup)
• Batch Id	ABC123	(Hermes 1.3(optional), Traceability)
• Batch quantity	50	(Is not in Hermes)
• Sequence in batch	4	(Is not in Hermes)
• Bad board in panel	0,3	(Hermes 1.4(optional), speed up)
• ...		

To do CFX (?):
Create data





Hermes Side Channel: Concept

Provide a Hermes Side Channel (HSC) for transferring large amount of data between machines

- Specified content, e.g., SubBoards without limitation
- Customized content, e.g., custom attributes

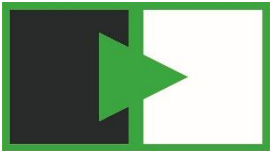
Add an HSC Server

- HSC Server does the communication with the machines using the Hermes Vertical channel (HVC)
- HSC Server shall retain data for at least 48 hours

Three new messages are needed on HVC to support the HSC:

- AddExtendedBoardInfo Machine sends Board data to HSC Server, existing data will be overwritten
- QueryExtendedBoardInfo Machine queries HSC Server for data of a specific Board identified by GUID
- SendExtendedBoardInfo HSC Server replies with Board data to a previous QueryExtendedBoardInfo





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Hermes Side Channel: Messages

AddExtendedBoardInfo

- BoardId and, if needed, SubBoards without limitation
- Optional custom attributes

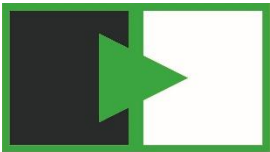
QueryExtendedBoardInfo

- BoardId to identify board for which information is queried

SendExtendedBoardInfo

- Result: Board unknown or known
- if available SubBoards without limitation
- Available custom attributes





Hermes Side Channel: Custom Attributes XML Structure and Message Workflow

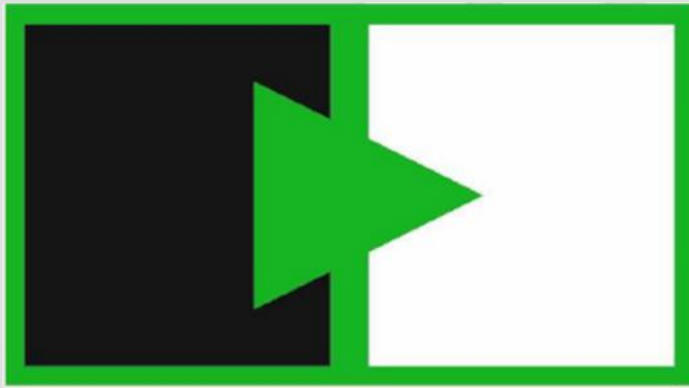
Example

```
<SubBoards> </SubBoards>
<Custom>
  <Mycronic_a> "Peter's Parameter" </Mycronic_a>
  <Rehm_1> "1234" </Rehm_1>
  ...
</Custom>
```

Workflow

- Machine receives Board together with BoardId from upstream BoardAvailable
 - Machine sends QueryExtendedBoardInfo with received BoardId
 - Machine receives data from HSC Server
 - Machine does its work
 - If needed Machine updates received data and sends it back to HSC Server latest before sending BoardAvailable to downstream machine
- Note:** Machine may send AddExtendedBoardInfo multiple times before passing the board on to downstream





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Let's Vote

Proposed Amendments to the HERMES Standard

Yes

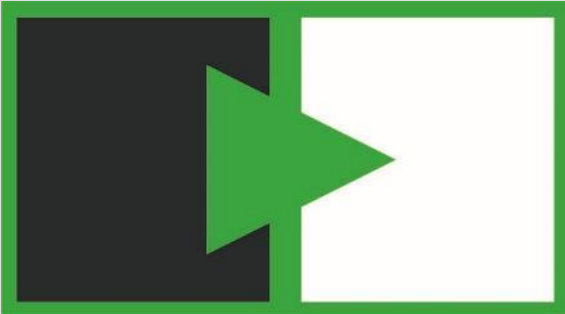
AddExtendedBoardInfo, QueryExtendedBoardInfo,
SendExtendedBoardInfo
To Version 1.7

No, we will not

Add to chat

Company xxxxx, Name xxxx, Yes / No





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Work Group:
Hermes Use Cases

**Adding
QueryHermesCapabilities, SendHermesCapabilities
to Supervisory Service Description**

Markus Mittermair, Rehm Thermal Systems GmbH



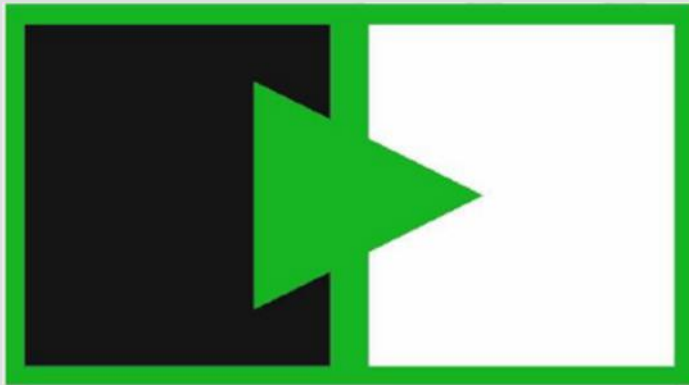


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QueryHermesCapabilities, SendHermesCapabilities to Supervisory Service Description

ServiceDescription	Type	Range Multiplicity	/ Optional	Description
FeatureHermesCapabilities	HermesCapabilities	1	yes	Indication of SendHermesCapabilities function implementation.





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Let's Vote

Proposed Amendments to the HERMES Standard

Yes

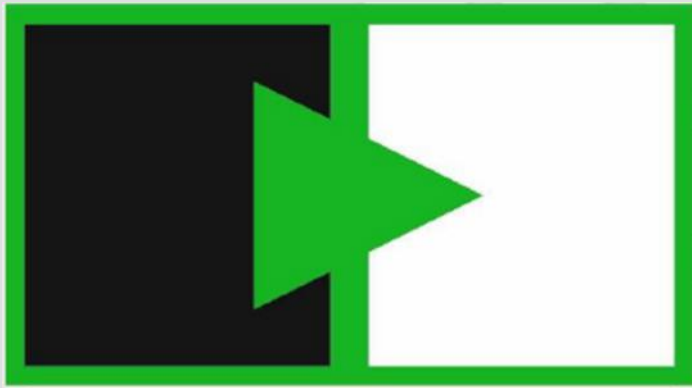
New message QueryHermesCapabilities, SendHermesCapabilities to Supervisory Service Description
To Version 1.7

No, we will not

Add to chat

Company xxxxx, Name xxxx, Yes / No





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Organizational issues





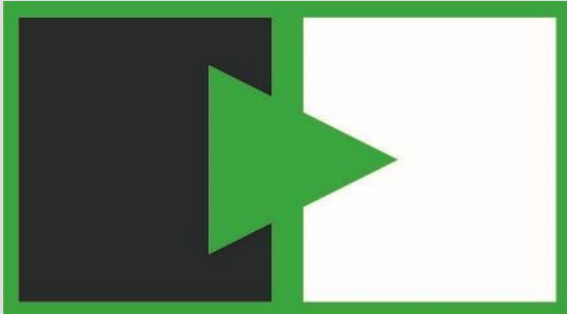
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Overview of action item

Open activities

- Hermes Use Cases workgroup - continued work
- Organize 15th meeting - Hermes Chair





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Next meeting

organizational issues and decisions

Markus Mittermair

Chair of The Hermes Standard Initiative



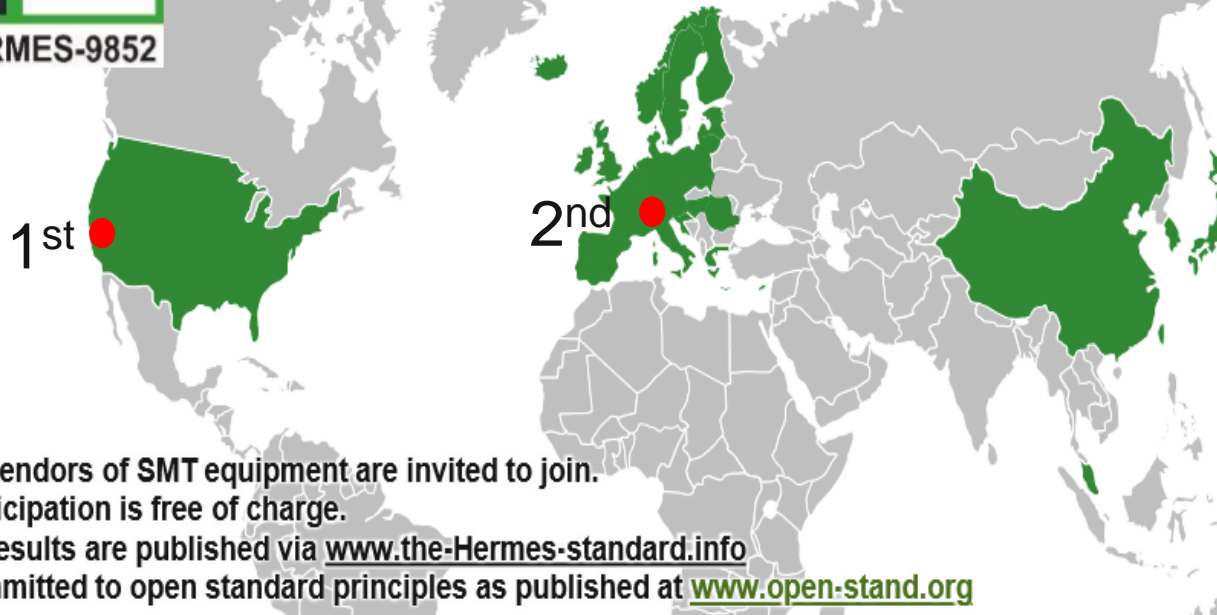
The Hermes Standard initiative

Location and timing for 13th meeting



The Hermes Standard Initiative

(Official meeting language: English)



- All vendors of SMT equipment are invited to join.
- Participation is free of charge.
- All results are published via www.the-Hermes-standard.info
- Committed to open standard principles as published at www.open-stand.org

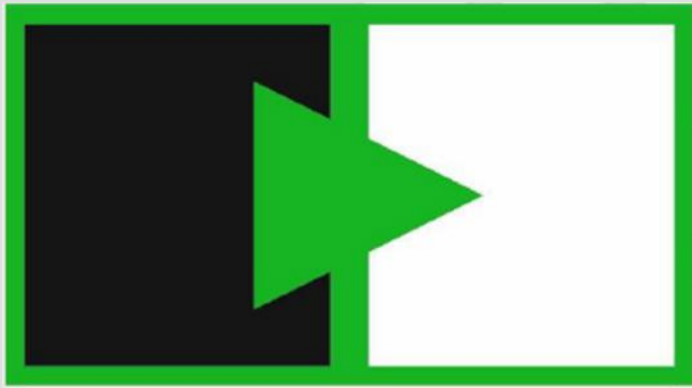
Suggestions for next meeting 2025

- 1) Apex Expo Anaheim USA March 15-20
- 2) Productronica Munich November 18-21
- 3) Other suggestions

Where and when should next meeting take place?

The initiative decided (x yes/x no) to hold the next meeting ...





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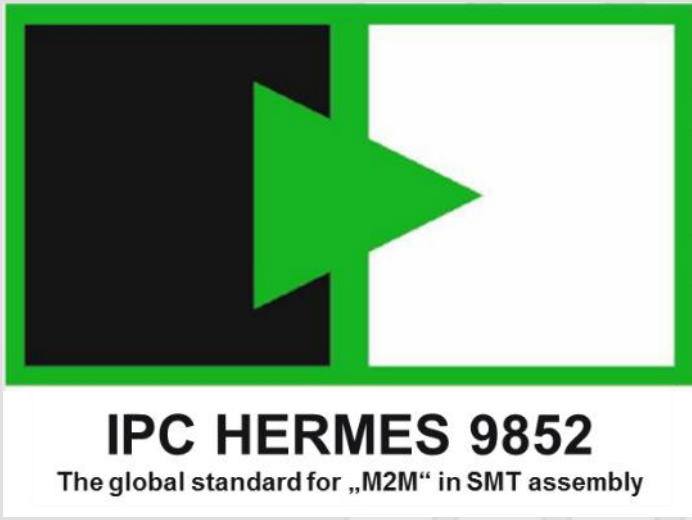
Let's Vote

Where and when should next meeting take place

Who is for xxxxx.

Add to chat
Company xxxxx, Name xxxx

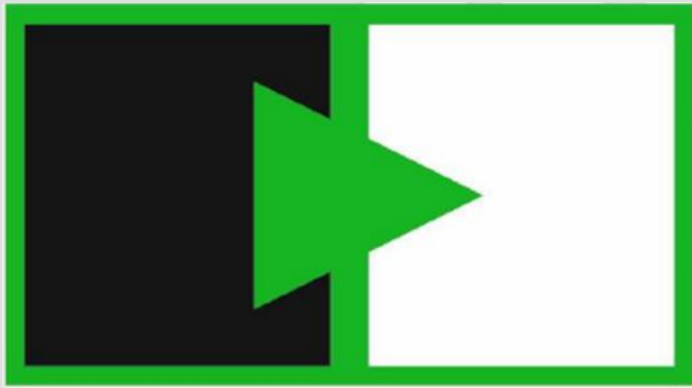




Wrap-up

End of the meeting





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The global standard for „M2M“ in SMT assembly

**Let's simplify the life of
our customers!**

The Hermes Standard Initiative

The Hermes Standard for vendor independent machine-to-machine communication in SMT Assembly.

