

Specified Nonprofit Organization (NPO)

# High-Frequency/Analog Semiconductor Business Research (HAB)Association

Promotion of New Businesses in the More than Moore Technology Domain

## Mission

Cultivation of the Ecosystem for Ventures of which core technology is Analog, through New Business Development Activities using Open-Innovation.

## ◆Activities

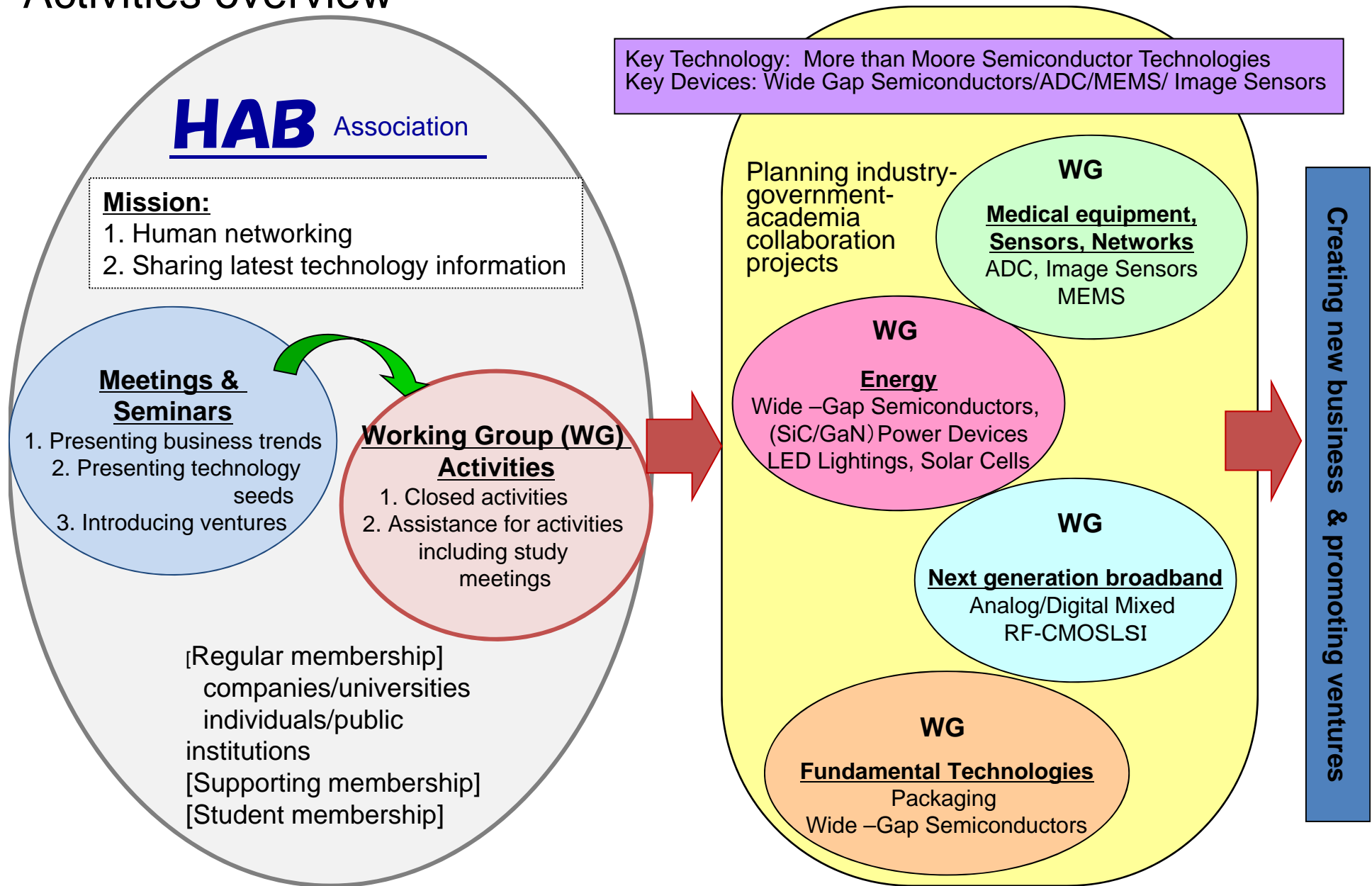
- 1) Analog Technology Trend Seminar held at Kyoto (4 times/year)
- 2) New Business Development through Working Group Activities using Open-Innovation
- 3) Promotion of Business Cooperation for Japan and Taiwan
- 4) Business Evaluation for the New Business Development by HAB Association Human-Network
- 5) Strategic Construction of Spin-Off (Curve-Out) Venture from Large Enterprise
- 6) Operation of the Venture Fund for the New Analog Technology (It's being planned.)

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# Activities overview



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## Analog Technology Trend Seminar in 2015 and 2016

The number of times /Years	Theme	Holding place
The 39th 6.29,2015	The Sensor Network which supports IOT/ Infrastructure	Kyoto
The 40th 10.6,2015	The Trend of the Analog -Semiconductor Foundry Business	Kyoto
The 41th 11.16,2015	The Trend of Energy Harvesting Technology for the Waste Heat	Kyoto
The 42th 3.1,2016	Now and Future of the Business Cooperation for Japan and Taiwan	Kyoto
The 43h 6,2016	The Trend of IOT Technology for Agriculture	Kyoto
The 44th 9,2016	The Trend of the Sensor Technology for Medical Treatment	Kyoto
The 45th 11,2016	The Trend of Fuel-Cell Technology	Kyoto
The 46th 12,2016	Now and Future of the Business Cooperation for Japan and Taiwan	Kyoto

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## Taiwanese Influential enterprises with which HAB-A Network want to collaborate

Taiwanese main leading company		Description of business
Semiconductor	<u>Macronix International Co.,Ltd.</u>	IC, optical component and optical device
	<u>UMC</u>	SC foundry
	<u>Win Semiconductor</u>	GaAs foundry
	<u>Media Tek</u>	Communication and audio visual
	<u>Realtek</u>	SOC for a communication PC and a television/displays
	<u>Epistar</u>	GaAs、 LED
	<u>Vanguard</u>	Analog/mixed signal and CMOS image sensor
	<u>Advanced Wireless Semiconductor (AWSC)</u>	Compound semiconductor and power amplifier
	<u>Visual Photonics Epitaxy Co., Ltd (VPEC)</u>	Compound EPI
	<u>Epitec</u>	LED manufacturer
	<u>Arima Photovoltaic &amp; Optical Corp.</u>	LED manufacturer
	<u>Mstar Semiconductor</u>	LSI for televisions
EMS	<u>鴻海</u>	Audio visual and camera
	<u>仁宝電腦 (COMPAL)</u>	Audio visual
	<u>冠捷科技 (TPV)</u>	Audio visual
PC/The home electronics	<u>Acer</u>	Investment and smart phone/tablet and displaying
	<u>ASUSTek Computer Inc.</u>	Computer, communication, and smart phone/tablet and displaying
	<u>Quanta Computer Inc.</u>	Laptop computer
Electronic component	<u>Delta Electronics, Inc.</u>	PC/point for communication
	<u>Darfon Electronics Co., Ltd</u>	Electronic component, point and PC peripheral device
energy	<u>Neo Solar Power Co.</u>	Solar cell system
	<u>Motech Industries Inc.</u>	Solar cell system
	<u>Mosel Vitelic Inc.</u>	Solar cell system
LCD	<u>AU Optronics Corp.</u>	LCD
	<u>ChiMei Innolux Corp.</u>	LCD

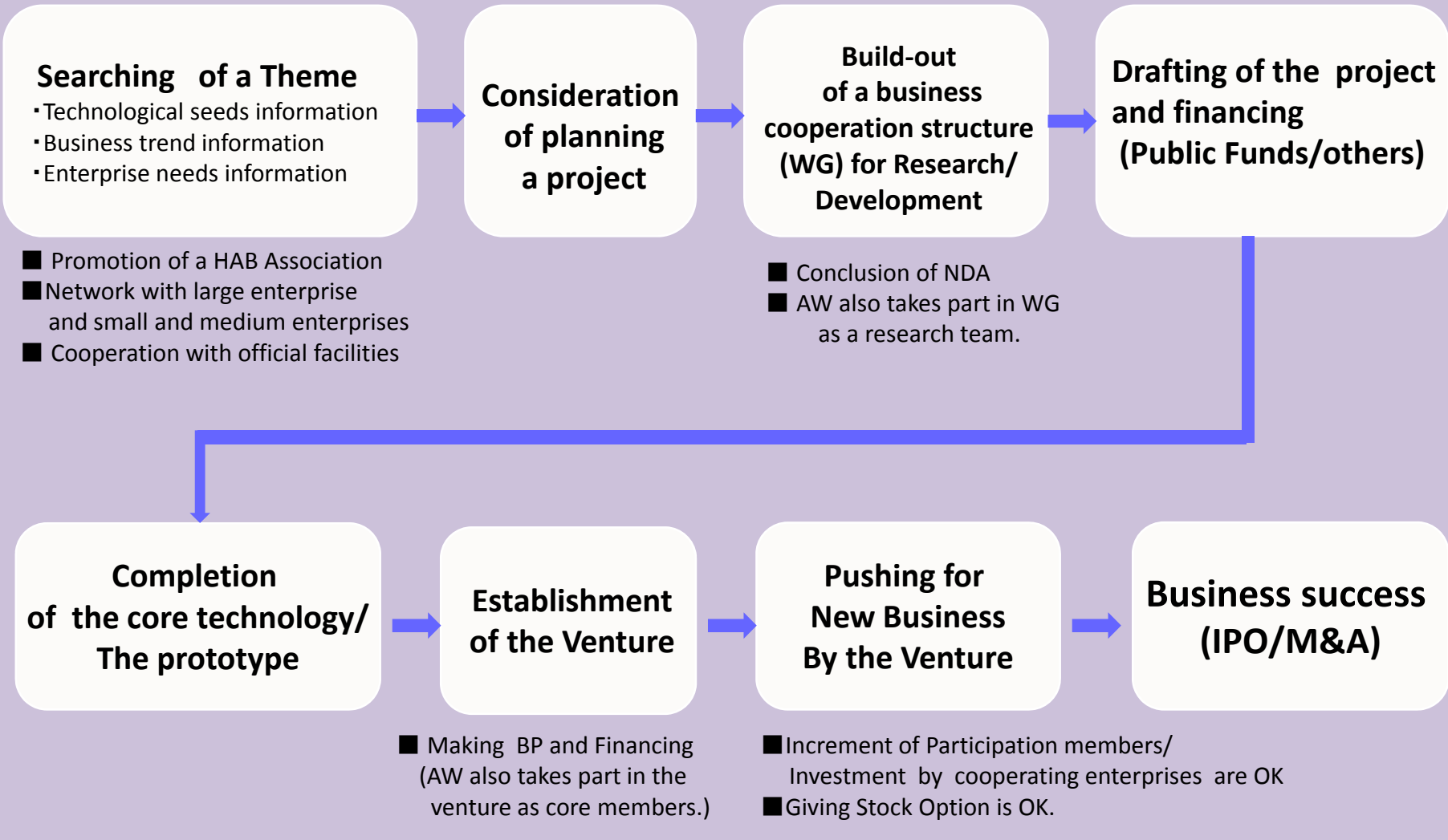
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# The Business Model of HAB-A for New Business Developments by Open-Innovation

## ◆ New business creation Business method



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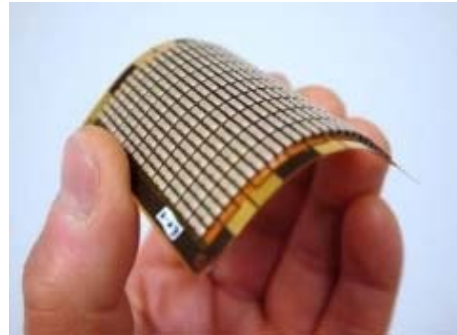
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# 'E Thermo-Jentech' which is the venture came out of HAB-A

## < Novelty >

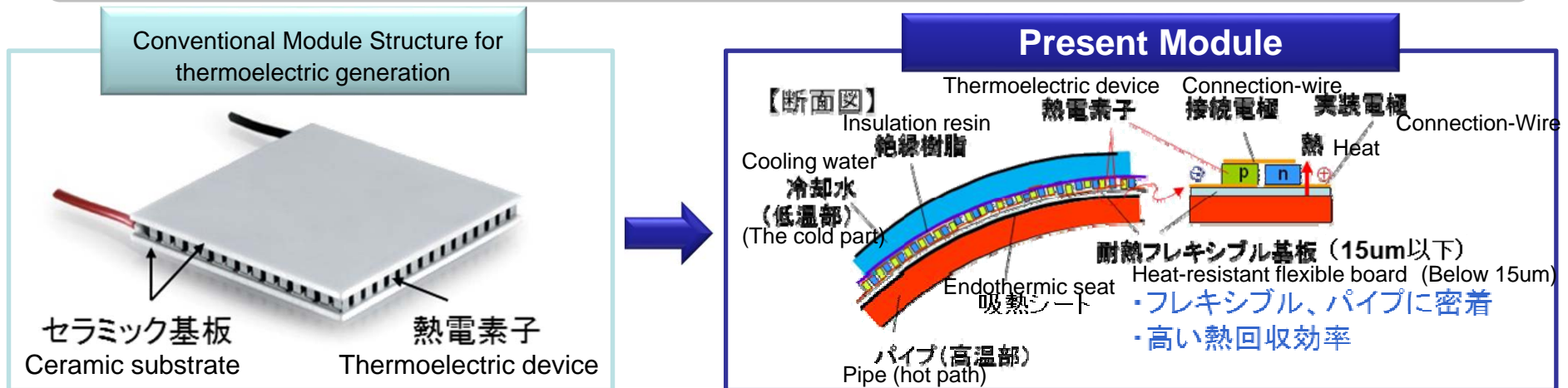
- Many small-sized BiTe chips are mounted on flexible Thin-Film at high speed
- The flexible structure enables close adherence of the modules onto cylindrical heat-sources which are the most popular



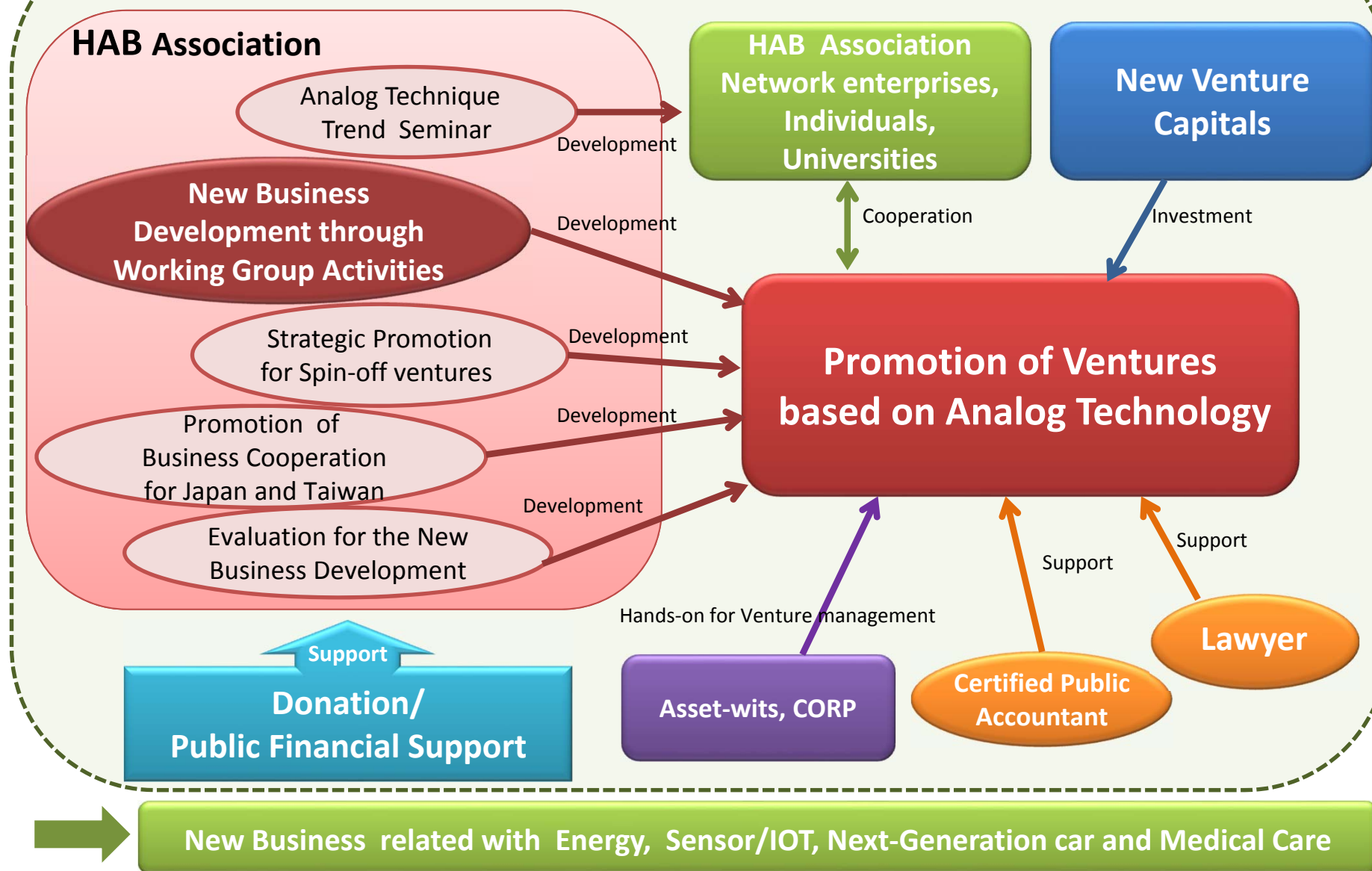
Thermoelectric Generating Module with the Flexible Structure (prototype)

## < Feature >

- ✓ High Heat Collection rate (about 3 times more than the ceramic substrate type)
- ✓ High Thermo-Electric Conversion Efficiency of the module (about two times than the ceramic substrate type)
- ✓ Low-Cost and High Reliability are possible, because of the semiconductor mass production technique .
- ✓ Choice of various kinds of thermoelectric device is available depending on the temperature of heat source.



## Creation of the new technological venture ecosystem by the HAB Association



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## ◆ History

December 2005	Founded with the support of JASVA (NEDIA) and JST Innovation Plaza Kyoto. The total number of past seminar participants exceeds 3000.
April 2010	Specified as a nonprofit organization.

## ◆ Organization overview

Officers	Chairman & CEO	Shutaro Nambu (President & CEO, Asset-Wits Corporation) (Former affiliation: Panasonic Corp.)
	Vice Chairman	Keiichi Ohata (Former affiliation: NEC Corp) Nobuyuki Kaminaka (Former affiliation: Panasonic Corp.)
	Directors	Kenji Izumi (Renesas Micro Systems Co., Ltd.) Shoji Uegaki (ASE Marketing & Service Japan Co., Ltd.) (Former affiliation: Kyocera Corp.) Hirokazu Shimizu (Specially Appointed Professor, Osaka University) (Former affiliation: Panasonic Corp) Hideharu Takebe (Former affiliation: Renesas Technology Corp.) Sumio Terakawa (Specially Appointed Professor, Osaka University) (Former affiliation: Panasonic Corp) Yutaka Hirano (MACOM Technology Solutions)(Former President & CEO, FCSI, Fujitsu Corp.) Yuji Horino (The National Institute of Advanced Industrial Science and Technology) Tadatoshi Yamada (Former affiliation: Mitsubishi Electric)
	Auditor	Yoshiaki Kobayashi (Former affiliation: Panasonic Corp.)
	Advisors	Tsunenobu Kimoto (Professor, Kyoto University) Yasuyuki Hanada (The National Institute of Advanced Industrial Science and Technology) Takashi Hikihara (Professor, Kyoto University) Kazuhiko Honjo (Professor, The University of Electro-Communications) Akira Matsuzawa (Professor, Tokyo Institute of Technology)
	Councilors	Tsuyoshi Taira (CEO of Tazan International Inc.)

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