



# Electronics Manufacturing Korea 2022 & Automotive World Korea 2022 Post-show report

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# I . SHOW OVERVIEW

## 1. Show title

- ▶ Electronics Manufacturing Korea (EMK) & Automotive World Korea (AWK)

## 2. Comprised of

- ▶ SMT/PCB & NEPCON KOREA
- ▶ S-FACTORY & ROBOTICS EXPO
- ▶ HIGHLY-FUNCTIONAL FILM EXPO
- ▶ PRINTED ELECTRONICS & ELECTRONIC MATERIALS SHOW
- ▶ PHOTONICS SEOUL
- ▶ AUTOMOTIVE ELECTRONICS TECHNOLOGY EXPO
- ▶ EV, HEV & FCV TECHNOLOGY EXPO
- ▶ AUTOMOTIVE LIGHTWEIGHT TECHNOLOGY EXPO

## 3. Concurrent Events

- ▶ Cooperative Automated Driving Industry Development Council Technical Seminar
- ▶ Semiconductor Packaging Integration Technology Seminar
- ▶ Materials Technology for High-speed Substrate
- ▶ Technology issue and standardization for electronic industry
- ▶ Smart Manufacturing Innovation Forum
- ▶ Optical Software Technology Trend Seminar
- ▶ Advanced Material Technology Seminar
- ▶ Launching Ceremony of IPC Korea Advisory Committee and Seminar
- ▶ Exhibitor Technical Seminar

## 4. Period

- ▶ Offline show : April 13(Wed) – 15(Fri), 2022
- ▶ Digital show : March 28(Mon) – April 15(Fri), 2022

## 5. Scale

- ▶ 278 exhibitors from 23 countries with 400 booths (10,348m<sup>2</sup>)
- ▶ Offline show visitors : 9,244 visitors (54 overseas visitors from 14 countries)
- ▶ Digital show visitors : 13,796 visitors, 53,578views

## 6. Show management

- ▶ Organized by : RX K Fairs, Smart Manufacturing Innovation Business Association
- ▶ Sponsored by : INTERCEM KOREA LTD., FUJI
- ▶ Supported by : Ministry of Trade, Industry and Energy, Ministry of SMEs and Startups

## 7. Exhibit Profile

### **SMT/PCB & NEPCON KOREA**

- SMT related equipment and materials
- PCB assembly solutions
- Mobile manufacturing solutions
- Semiconductor related equipment and materials

### **S-FACTORY & ROBOTICS EXPO**

- Smart Factory and automation solutions
- AI/IoT/M2M Solutions
- Manufacturing and logistic robot systems
- Robot components

### **HIGHLY-FUNCTIONAL FILM EXPO**

- Functional film and sheet
- Adhesive tape
- Film manufacturing and processing equipment
- Coating, ceramic, nano, chemical equipment

### **PE & ELECTRONIC MATERIALS SHOW**

- PE materials, device applications
- PE processing equipment and technologies
- Test and measurement equipment

### **PHOTONICS SEOUL**

- Optical components, materials, sensors
- Optical measurement and test analysis equipment
- High & low power laser solutions

### **AUTOMOTIVE ELECTRONICS TECHNOLOGY EXPO**

- Automotive electronics control systems
- Automotive semiconductors and electronic components & devices
- Testing technology
- ADAS and autonomous driving technologies
- EMC/Noise reduction technologies

### **EV, HEV & FCV TECHNOLOGY EXPO**

- EV, HEV & FCV driving and In-wheel motor systems
- Rechargeable batteries and related technologies
- Next-generation batteries and related technologies
- Motor technologies
- Inverters, converters and battery swap technologies
- Charging technologies and battery swap technologies

### **AUTOMOTIVE LIGHTWEIGHT TECHNOLOGY EXPO**

- Lightweight materials
- Molding, processing technologies, processing equipment
- Components and module for automotive weight reduction
- Dissimilar material joining technologies and test equipment

## II. TECHNICAL SEMINARS

■ **Period** : April 13(Wed) – 15(Fri), 2022

■ **Venue** : Hall C and Conference room in COEX

■ **Topic**

### Cooperative Automated Driving Industry Development Council Technical Seminar

2022. 04. 13(Wed), Seminar Theater 1, Hall C

Time	Topic	Speaker
13:30 ~ 13:35	Opening Address	Ministry of Land, Infrastructure and Transport
13:35 ~ 13:55	Digital Twin Simulation platform for AV and ADAS testing, training, and validation	Cognata Ayoub Ouahidi Manager Yun-Hyung Jung Manager
13:55 ~ 14:15	Desirable direction of V2X policy in Korea	ESSYS Soon-Gee Jo Director
14:15 ~ 14:35	Application of HD Map for cooperative automated driving	Ways1 Inc. Jae-Hee, Kim CTO
14:35 ~ 14:55	Break time	
14:55 ~ 15:15	5G-NR V2X technology for automated driving	Ettifos Yong-Je Lim CEO
15:15 ~ 15:35	Misbehavior Detection in V2X Communications(LMBD)	FESCARO Hyun-Jung Lee Director
15:35 ~ 15:55	Digital road corresponding to digital vehicles	Metabuild Jin-Ki Lee General Manager
15:55 ~ 16:00	Commemorative photo and Closing the event	

## Semiconductor Packaging Integration Technology Seminar

2022. 04. 13(Wed), Conference Rm. 308

Time	Topic	Speaker
09:30 ~ 10:20	Novel Materials for Advanced Packaging and System Integration	Indium Corporation Dongaki Shangguan, Ph.D
10:30 ~ 11:20	FC BGA technology trends	AZ Supply Chain Solutions Tadashi Kamewada, CEO
11:30 ~ 12:00	Power Module Packaging Technology	Yole Development Shalu Agarwal, Analyst
13:00 ~ 13:50	Introduction of Smart Vehicle Technology	Korea Automotive Technology Institute ChulWoo Moon, Ph.D
14:00 ~ 14:50	Low melting temperature (LTS) solder interconnects : Thermo-mechanical stability and degradation mechanism	Cisco Systems TaeKyu Lee, Ph.D
15:00 ~ 15:50	B-Stage Polymer Adhesive Films (ACFs, NCFs, and EMFs) for Electronic Packaging Applications	KAIST KyungWook Paik, Prof.
16:00 ~ 16:50	Semiconductor packaging technology trends	Interconnection Tech Henry H. Utsunomiya, CEO

## Exhibitor Technical Seminar

2022. 04. 13(Wed), Seminar Theater 2, Hall C

Time	Topic	Speaker
13:00 ~ 14:00	3D printing Reference in the electronics and automotive electronics manufacturing industry	AAM
14:00 ~ 15:00	Precision dry cleaning technology	ESG
15:00 ~ 16:00	CMOS simulation using Lumerical FDTD and Speos	ANSYS KOREA

2022. 04. 14(Thu), Seminar Theater 2, Hall C

Time	Topic	Speaker
11:00 ~ 12:00	Dynamic test & Analysis for Automotive	GENERAL UTILITY
13:00 ~ 14:00	Electric vehicle CFD Solutions and power semiconductor reliability testing	DELTA ES
14:00 ~ 15:00	How to Manage SMT reel in the Pandemic era	CEYON TELINVENTORY
15:00 ~ 16:00	ZwickRoell Mechanical Testing solutions for Li-Ion batteries	MTM CORPORATION

## Smart Manufacturing Innovation Forum

2022. 04. 14(Thu), Seminar Theater 1, Hall C

Time	Topic	Speaker
PART 1 : SMIBA x AWS Smart Manufacturing Seminar		
09:40 ~ 10:00	Site registration and pror guidance	
10:00 ~ 10:05	Forum Guides anf Schedule introduction	SMIBA
10:05 ~ 10:30	A Guide to Smart Factory Government Support Projects for Demanding Enterprises	SMIBA
10:30 ~ 11:00	Cloud-based smart factory that is easily understood	AWS Jaeyong Han, Senior BD
11:00 ~ 11:30	Cloud-based IoT that is easily understood	AWS Albert Lee, Sr. IoT Specialist SA
11:30 ~ 12:00	Cloud-based smart factory - With the AWS Partner Network -	AWS Jeongmin Kim, Sr. Partner Development Rep.
12:00 ~ 13:30	Break time	
PART 2 : Next Generation Smart Factory Strategy Policy Forum & Panel Discussion		
13:30 ~ 13:35	Opening	SMIBA Cheol-Gyu Kang, Chairman
13:35 ~ 13:40	Announcement 1 Advancement of Cloud-based Smart Factory	KOSMO Hangu Park, President
13:40 ~ 14:10	Announcement 2 Establishment of SaaS ecosystem based on Korean manufacturing data platform	AWS Myung Koo Kang, Executive Technology Partner
14:10 ~ 14:40	Arrange and Setup	
14:40 ~ 15:40	<Comprehensive discussion and Q&A > · The head of a group : Do Sung Na Director (KISME) · Panel : Sang Ki Kang director of the center(Hanyang Univ. AI Solution Center) Hyo Heon Kang Vice president(a-cloud) In Suk Kim Ph.D(STEPI) · Presenter : Han Ku Park President(KOSMO) Myung Koo Kang Executive Technology Parnter(AWS)	
15:40 ~ 15:55	Q&A with the audience	
15:55 ~ 16:00	Closing	

## Advanced material technology seminar

2022. 04. 14(Thu), Conference Rm. 300

Time	Topic	Speaker
13:00 ~ 13:30	Registration	NaviON
13:30 ~ 13:35	Introduction	NaviON
13:35~13:40	Welcome Greetings	Minjung Kim
13:40~13:50	Ultra-thin soft magnetic materials for traction motor and power conversion system (PCS) for electric vehicle (EV)	Jaewon Jeong
13:50~14:00	Development of cost-effective and High-performance RE-saving Nd-Fe-B permanent magnets for High-efficiency motors	Taehoon Kim(A)
14:00~14:10	Silicon nitride ceramic technology for hybrid ball bearing application	Jaewoong Ko
14:10~14:20	Aluminum casting alloys with high strength/conductivity	Younghee Cho
14:20~14:30	Manufacturing Technology and Applications of Multifunctional CNT Fibers as Platform Materials	Taehoon Kim
14:30~14:40	Electromagnetic wave shielding-absorbing composites for mm wave	Sangbok Lee
14:40~14:50	Highly efficient Transparent OPV under low light condition and solar driven hybrid smart window technology	Dongchan Lim
14:50~15:00	taC coating system technology and its industrial applications	Youngjoon Chang
15:00~15:10	KIMS MgO: new heat-dissipation ceramics for electronic devices	Chulwoo Ahn
16:00 ~ 17:00	Technical consulting	



## Materials Technology for High-speed Substrate

2022. 04. 14(Thu), Conference Rm. 308

Time	Topic	Speaker
10:10 ~ 10:50	High Speed PCB and Materials	PRISMARK Kaz Hirasaka Senior Consultant
11:00 ~ 11:50	PKG substrate materlas technology	Panasonic industry Fumito Suzuki Staff Engineer
13:00 ~ 13:30	Low dielectric FCCL Technology Trends	INNOX Advanced Materials
13:30 ~ 14:20	Low dielectric filler technology trend	SukgyungAT YoungChul Yoo, Director
14:30 ~ 15:20	High Speed Interface Solution	Samtec Mae Li, Ph.D
15:30 ~ 16:20	Organic/inorganic insulation materials technology for substrate	Topnano DongPil Kang, Ph.D

## Technology issue and standardization for electronic industry

2022. 04. 15(Fri), Conference Rm. 403

Time	Topic	Speaker
13:00 ~ 13:10	Welcome Greetings	Korean Agency for Technology and Standards
13:10 ~ 13:40	Domestic and international certification systems	Korea Testing Certification Institute SangWoon Lee, Ph.D
13:40 ~ 14:20	PCB Market and technology : Standardization	Korea Packaging Integration Association MinSu Lee, Ph.D
14:30 ~ 15:10	Semiconductor and Semiconductor packaing market and future technology and standardization	The Korean Association of Microelectronics Packaging SungHoon Choa, Ph.D
15:20 ~ 16:00	Display key technology and market : Standardardization Issues	Korea Electronics Technology Institute JeongNo Lee, Ph.D
16:10 ~ 16:50	Technology and standardization issue of inkjet printing equipment for printed electronics and information display industry	Korea Institute of Industrial Technology KyungTae Kang, Ph.D

## Optical Software Technology Trend Seminar

2022. 04. 15(Fri), Seminar Theater 2, Hall C

Time	Topic	Speaker
13:00 ~ 14:00	SYNOPSYS™ Lens Design Software	SYNOPSYS David Choi
14:00 ~ 15:00	PicMan Image Analysis Solution	WAFERMASTERS David Choi

## Launching Ceremony of IPC KOREA Advisory Committee and Seminar

2022. 04. 15(Fri), Seminar Theater 1, Hall C

Time	Topic	Speaker
Section I : Launching Ceremony and Congratulations		
10:20 ~ 10:25	Defacto Standard (IPC) Forum of Electronics Manufactory Industry	Korea Packaging Integration Association Dr. Minsu Lee
	Congratulations for launching ceremony	Korean Standards Association Seungwuk Jung
10:25 ~ 10:45	IPC introduction	IPC Asia President Sydney Xiao
10:45 ~ 10:50	Congratulations for launching ceremony	IPC President & CEO John Mitchell
10:50 ~ 11:20	IPC KOREA Advisory Committee	IPC KOREA Representative MunSeon (Tina) Choi
Section II : Seminar(How to utilize IPC Standards)		
11:20 ~ 12:00	I. PCB Manufacturing Part	Korea Electronics Technology Institute Jinho Lee
12:00 ~ 13:00	Lunch Time	
13:00 ~ 13:30	II. Automotive Electronics Design Part	Kyungshin Cable Jihun Park
13:30 ~ 14:00	III. IPC-A-610GA Automotive Addendum to IPC j-STD-001G Requirements for Soldered Electrical and Electronic Assemblies and IPC-A-610G Acceptability of Electronic Assemblies	Robert Bosch GmbH, Automotive Electronics Udo Welzel & Nobert Holle
14:00 ~ 14:40	IV. SMT + Assembly Part	Guru E&E Inc. President Youngho Hwang
14:40 ~ 15:00	Q&A	

### III. EXHIBITION ANALYSIS

#### 1. Scale

278 exhibitors from 23 countries with 400 booths (10,348m<sup>2</sup>)

#### 2. Visitor analysis

▶ By Daily

Date	Attend	Ratio
April 13(Wed)	2,561	27.7%
April 14(Thu)	3,624	39.2%
April 15(Fri)	3,059	33.1%
<b>Total</b>	<b>9,244</b>	<b>100.0%</b>

▶ By Region

Region	Attend	Ratio
Seoul	2,940	31.8%
Gyeonggi / Incheon	4,530	49.0%
Busan / Ulsan / Gyeongnam	185	2.0%
Daegu / Gyeongbuk	444	4.8%
Daejeon / Sejong / Chungcheong	776	8.4%
Gwangju / Jeonlla	157	1.7%
Gangwon	46	0.5%
Jeju	9	0.1%
Etc.	157	1.7%
<b>Total</b>	<b>9,244</b>	<b>100.0%</b>

► By Job title

Job title	Attend	Ratio
Chairman, Vice Chairman, CEO, President, Vice president	2,265	24.5%
Director, General manager, Senior manager	4,520	48.9%
Assistant manager, Staff	1,849	20.0%
Etc.	610	6.6%
<b>Total</b>	<b>9,244</b>	<b>100.0%</b>

► By Department

Department	Attend	Ratio
Management	1,035	11.2%
Purchasing, Procurement	573	6.2%
R&D	3,014	32.6%
Sales, Marketing	2,283	24.7%
Operation	111	1.2%
Manufacturing, Production	1,784	19.3%
QC, Safety management	342	3.7%
Etc.	102	1.1%
<b>Total</b>	<b>9,244</b>	<b>100.0%</b>

► By Business type

Business type	Attend	Ratio
Export/Import	1,350	14.6%
Media	92	1.0%
Finished product manufacturer	3,004	32.5%
Finished product manufacturing vendor	3,300	35.7%
Agent	832	9.0%
Association	370	4.0%
Etc.	296	3.2%
<b>Total</b>	<b>9,244</b>	<b>100.0%</b>

► By Industry

Industry	Attend	Ratio
IT/Mobile	1,193	12.9%
Munitions/Defense	166	1.8%
Display	601	6.5%
Semiconductor	971	10.5%
Home appliance	139	1.5%
Safety	74	0.8%
Energy	139	1.5%
Medical	231	2.5%
Automotive manufacturer	758	8.2%
Automotive part manufacturer	1,359	14.7%
Electric/Electronics	1,488	16.1%
Electronic components manufacturer	730	7.9%
Computer/Network	231	2.5%
Aerospace	166	1.8%
Chemical	499	5.4%
Etc.	499	5.4%
<b>Total</b>	<b>9,244</b>	<b>100.0%</b>

► By Purpose of visit

Purpose of visit	Attend	Ratio
Exploring – To check what new items and technologies have come out	5,694	61.6%
Fishing – To meet as many companies as possible and make deals later	453	4.9%
Targeting – To focus on specific exhibitors and have a meeting with them	231	2.5%
Reconnecting – To maintain relationship with existing customers	102	1.1%
Learning – To learn more about new things in my industry	1,830	19.8%
Building – To create new opportunities with new customers	832	9.0%
Socializing – To send regards to the existing customers without any transaction purpose	102	1.1%
<b>Total</b>	<b>9,244</b>	<b>100.0%</b>

## IV. Promotion

### 1. Printing materials

- ▶ Invitation tickets ----- 500,000  
(Visitors database accumulated since 2018, related industry's companies and buyer, exhibitors)
- ▶ News release ----- 200  
(Major Broadcasts, Daily Newspapers, Related Magazine, Economic Newspapers, etc.)

### 2. Newspaper and magazine promotion

#### A. Advertisement for exhibitor promotion

Electronic newspaper -----	5 times (Sep. 2021 ~ Feb. 2022)
SMT Packaging FOCUS -----	7 times(Aug. 2021 ~ Feb. 2022)
Complete Automation Technology -----	7 times(Aug. 2021 ~ Feb. 2022)
FA Vision-----	7 times(Aug. 2021 ~ Feb. 2022)
Embedded -----	7 times(Aug. 2021 ~ Feb. 2022)
EPNC -----	7 times(Aug. 2021 ~ Feb. 2022)
SecuN -----	7 times(Aug. 2021 ~ Feb. 2022)
Electronic Engineering -----	7 times(Aug. 2021 ~ Feb. 2022)
Semiconductor Network -----	7 times(Aug. 2021 ~ Feb. 2022)
Plastic World -----	7 times(Aug. 2021 ~ Feb. 2022)
Plastic Science -----	7 times(Aug. 2021 ~ Feb. 2022)
Masschinenmarkt Korea -----	7 times(Aug. 2021 ~ Feb. 2022)
Ceramic Korea -----	7 times(Aug. 2021 ~ Feb. 2022)

#### B. Advertisement for visitor promotion

Electronic newspaper -----	5 times (Feb. 2022 ~ Apr. 2022)
SMT Packaging FOCUS -----	2 times(Mar. 2022 ~ Apr. 2022)
Complete Automation Technology -----	2 times(Mar. 2022 ~ Apr. 2022)
FA Vision-----	2 times(Mar. 2022 ~ Apr. 2022)
Embedded -----	2 times(Mar. 2022 ~ Apr. 2022)
EPNC -----	2 times(Mar. 2022 ~ Apr. 2022)
SecuN -----	2 times(Mar. 2022 ~ Apr. 2022)

Electronic Engineering -----2 times(Mar. 2022 ~ Apr. 2022)  
Semiconductor Network ----- 2 times(Mar. 2022 ~ Apr. 2022)  
Plastic World -----2 times(Mar. 2022 ~ Apr. 2022)  
Plastic Science -----2 times(Mar. 2022 ~ Apr. 2022)  
Masschinenmarkt Korea -----2 times(Mar. 2022 ~ Apr. 2022)  
Ceramic Korea -----2 times(Mar. 2022 ~ Apr. 2022)

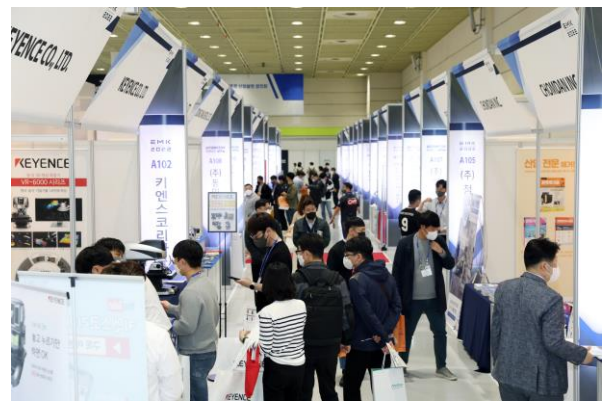
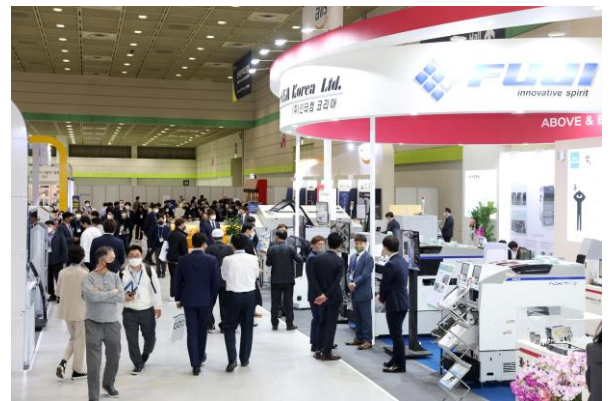
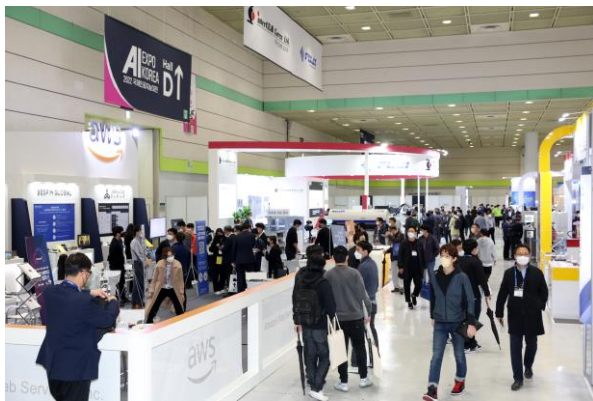
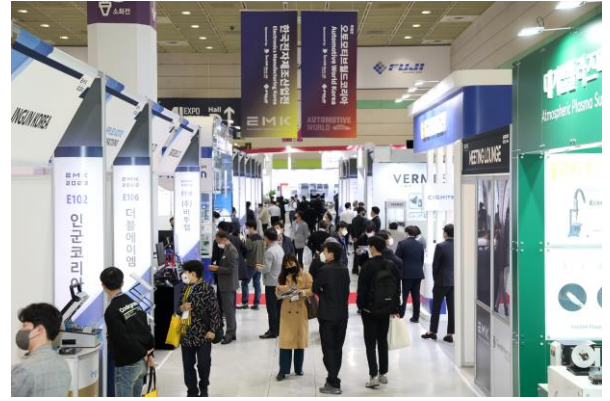
### **3. Internet Promotion**

- ▶ Promotion by email : 300,000 related professionals
- ▶ Promotion by keyword
- ▶ Promotion by online community (Blogs, forums, cafes)
- ▶ Promotion by Linkdin
- ▶ Promotion by Google
- ▶ Promotion by YOUTUBE
- ▶ Promotion by Global NEPCON team

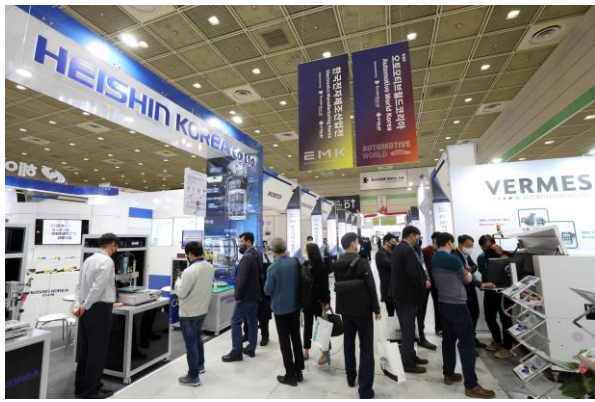
### **4. Present press condition for show**

- ▶ Major media(Joong Ang Ilbo, Electronic newspaper)
- ▶ Internet news

# V. PHOTOS of 2022







## Electronics Manufacturing Korea & Automotive World Korea

April 12(Wed) – 14(Fri), 2023, COEX

Make your calendar for next year's show!