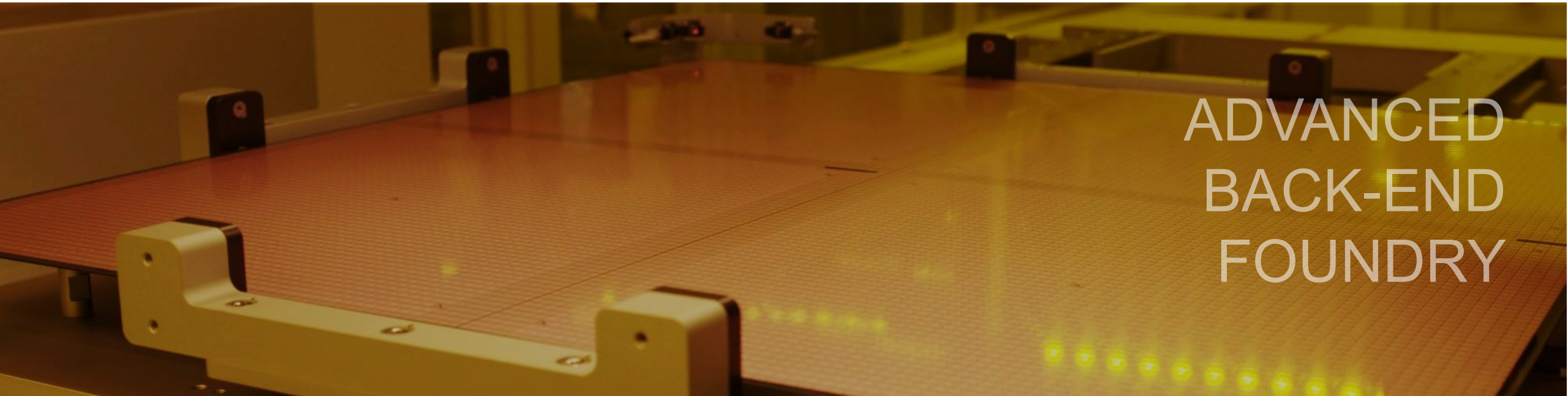
nepes
2022 INTRODUCTION

Semiconductor | Artificial Intelligence | IT Materials

TM_ver.1.5(lite)_20220720

C O N T E N T S



CORPORATE BRANDING

네패스의 4차원 경영은 회사명을 결정하는 그 순간부터 시작되었습니다.

어원(히브리어) | נֶפֶשׁ(nephesh)
Eternal Life / Dynamic
장수기업

4차원 경영이란?

젖과 꿀이 흐르는 장수 기업이 되기 위해 **창조, 혁신, 개척** 사건과 **재미, 만족, 기쁨** 사건이 계속적으로 일어나게 하는 경영

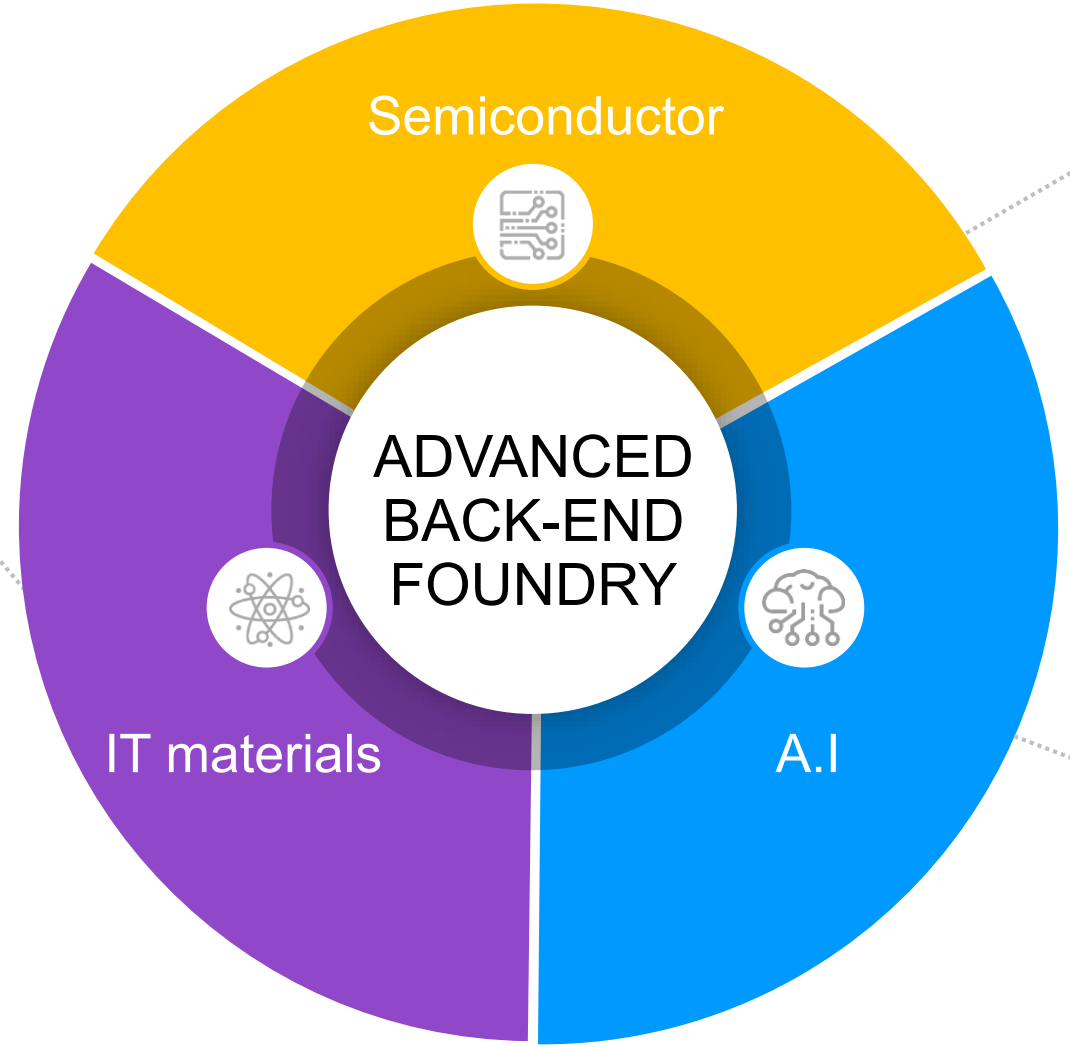
Corporate Identity

Trademark

회 사 명	주식회사 네패스
설 립 연 월	1990년 12월
상 장 연 월	1999년 12월(KOSDAQ 033640)
C E O	이병구 (Byung-Koo Lee, 李柄九)
해 외 법 인	CN, US, PHL, IDN

BUSINESS PORTFOLIO

네패스는 **백엔드 파운드리(Advanced Back-end Foundry)** 전문 기업으로서 시스템 반도체 산업의 미래를 앞당깁니다.



01. Semiconductor

- FOPLP/FOWLP
- WLP, Bumping
- System in PKG
- Test

02. Artificial Intelligence

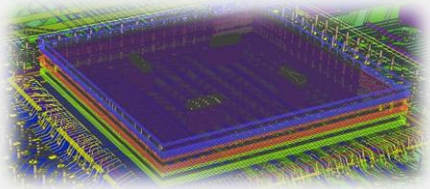
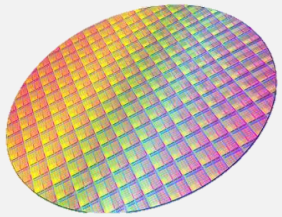
- A.I Solution for Vision Inspection
- A.I Solution for Predictive Maintenance
- A.I Solution for A.I Chip

03. IT 소재·부품

- PR, PSPI 外
- Functional Chemicals
- Process Chemicals
- Lead Tab(ESS/EV)
- Smart Film

네패스는 FOPLP, nSiP 등의 첨단 반도체 기술로 글로벌 SCM의 지형을 바꾸고 있습니다.

Semiconductor Supply Chain

IC Design → Silicon Fabrication → Package(WLP[1] / PLP[2]) → Final Test

IDM

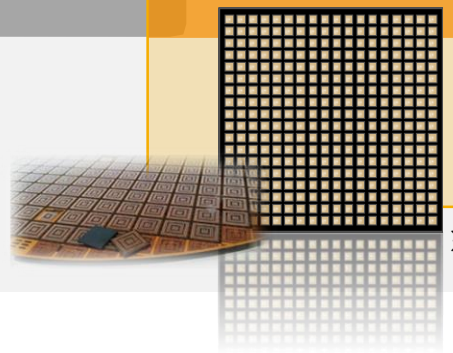
Fabless IC Players

Wafer Foundry

OSATS

Bumping, RDL[3] Processing

Back-end Foundry

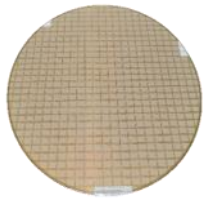
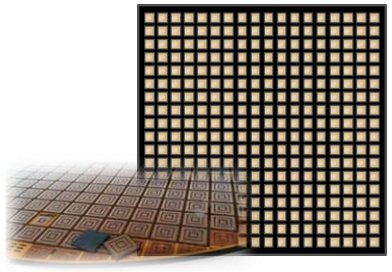
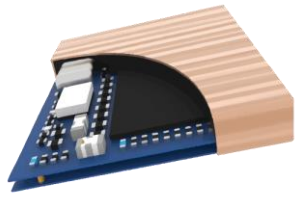
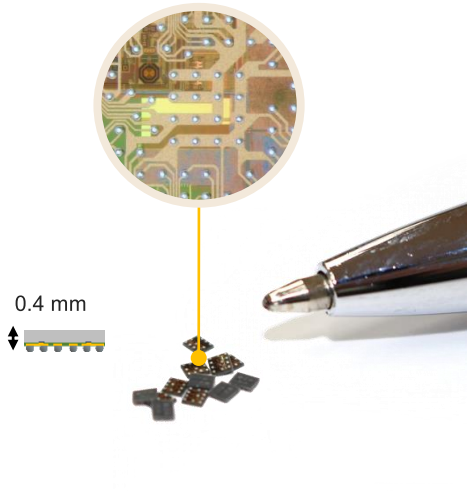
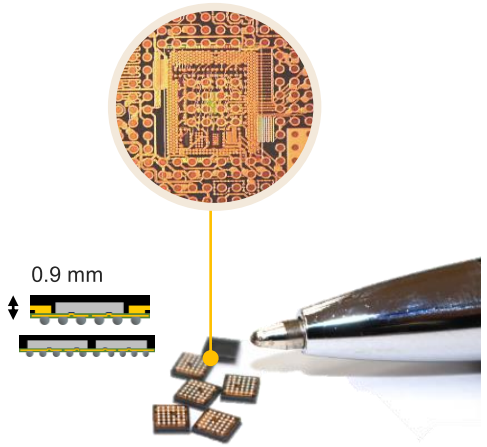
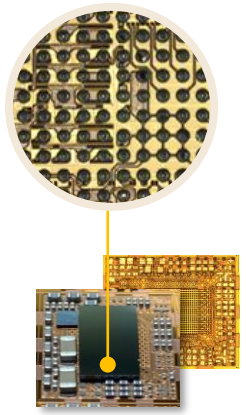


※ 2020년 국가핵심기술 지정

[1] Wafer Level Package
[2] Panel Level Package
[3] Re-Distribution Layer

CORE TECHNOLOGY | 01. Semiconductor

네패스의 End-fab 기술은 고성능 반도체를 경박단소화 하는 핵심 기술입니다.

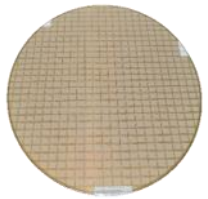
Fan in WLP	Fan out WLP/PLP	nSiP
		
200mm / 300mm	300mm rd. / 600mm sq.	Small & Thin SiP(End fab+PLP)
		

Applications

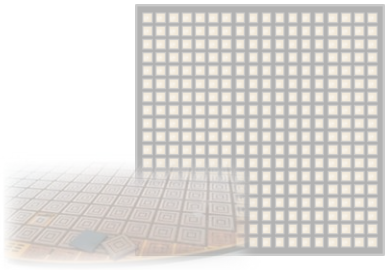
CORE TECHNOLOGY | 01. Semiconductor ① WLP

네패스의 End-fab 기술은 고성능 반도체를 경박단소화 하는 핵심 기술입니다.

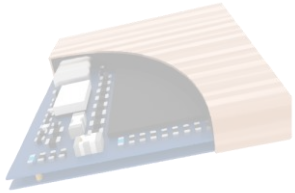
Fan in WLP	Fan out WLP/PLP	nSiP



200mm / 300mm

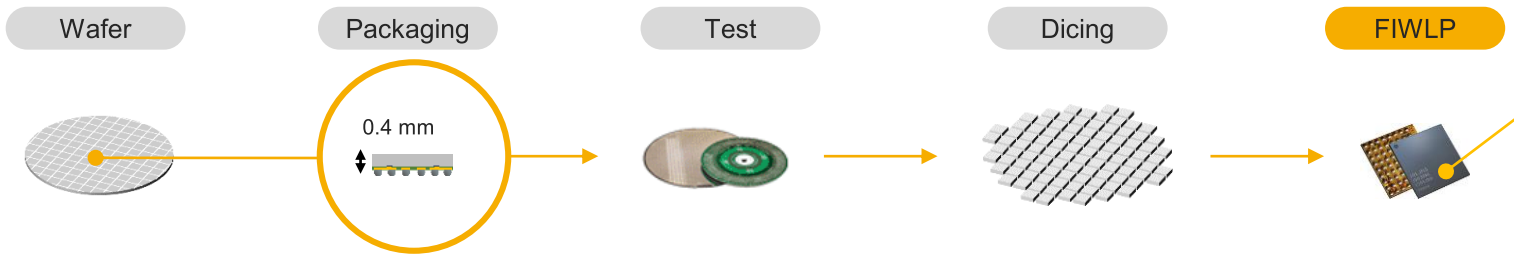


300mm rd. / 600mm sq.



Small & Thin SiP(End fab+PLP)

▶ FIWLP(Fan in Wafer Level PKG) Process

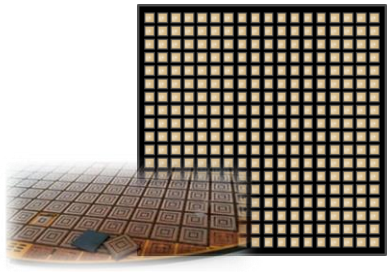


Applications

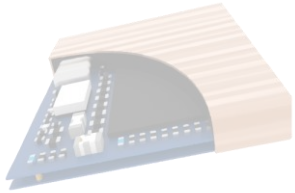
네패스의 End-fab 기술은 고성능 반도체를 경박단소화 하는 핵심 기술입니다.

Fan in WLP	Fan out WLP/PLP	nSiP

200mm / 300mm

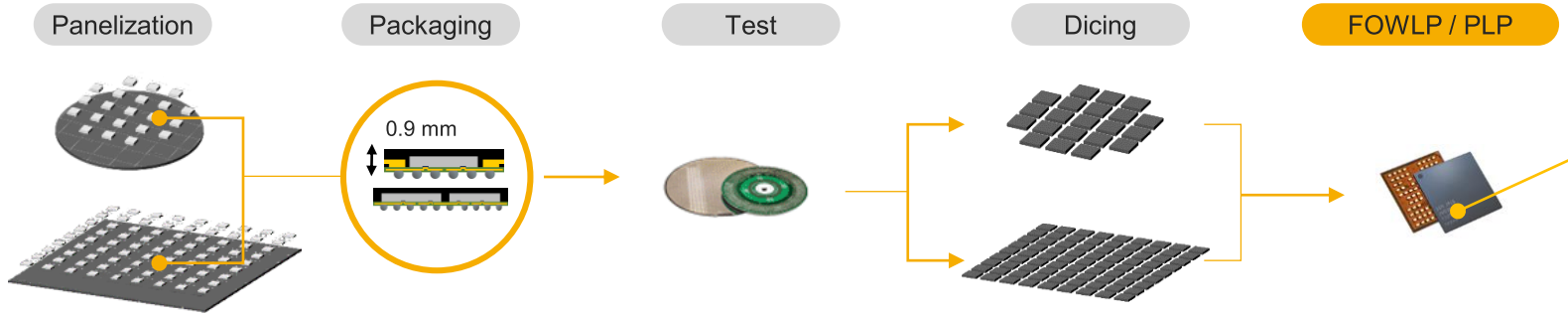


300mm rd. / 600mm sq.



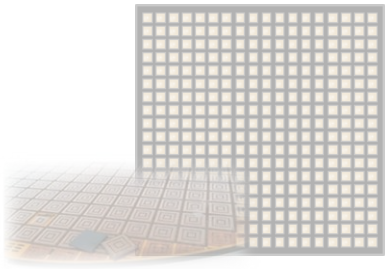
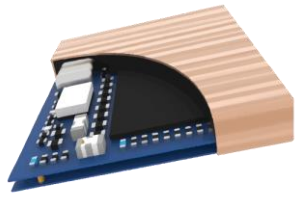
Small & Thin SiP(End fab+PLP)

▶ FOPLP(Fan out Panel Level PKG) Process

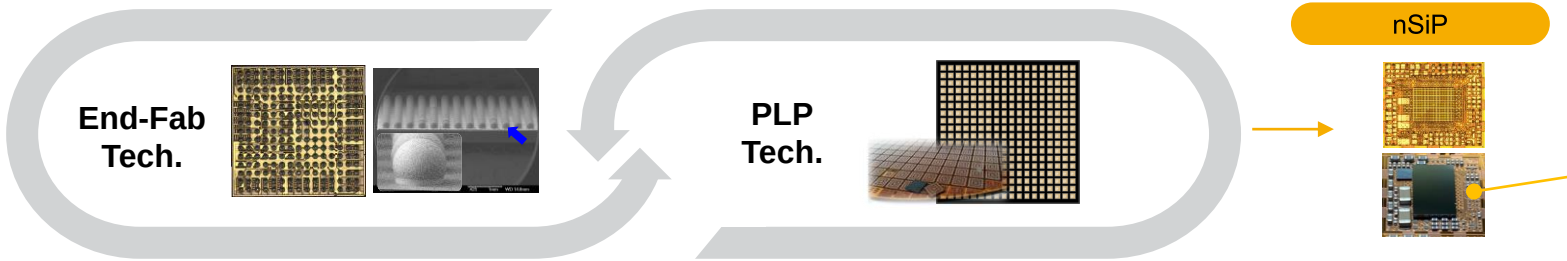


Applications

네패스의 End-fab 기술은 고성능 반도체를 경박단소화 하는 핵심 기술입니다.

Fan in WLP	Fan out WLP/PLP	nSiP
		
200mm / 300mm	300mm rd. / 600mm sq.	Small & Thin SiP(End fab+PLP)

▶ What is nSiP(System in PKG)?



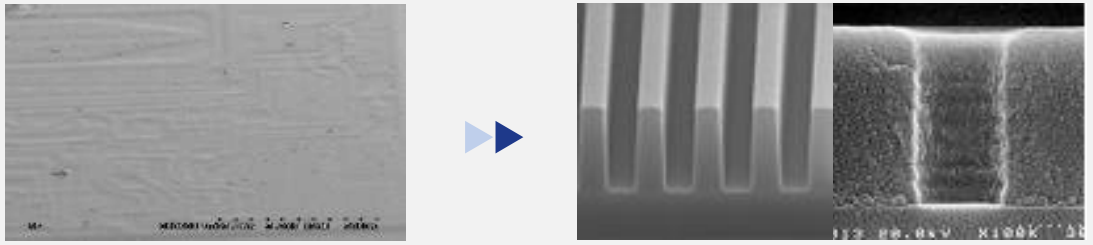
Applications

Service & Products

- A.I Solution for Vision Inspection
- A.I Solution for Predictive Maintenance
- A.I Solution for A.I chip

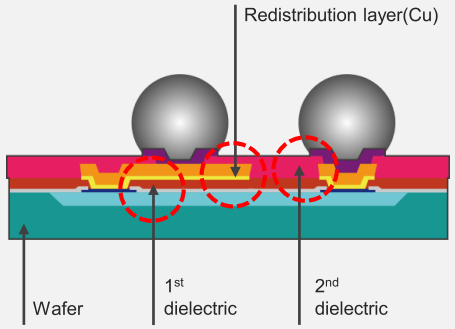
Process chemicals

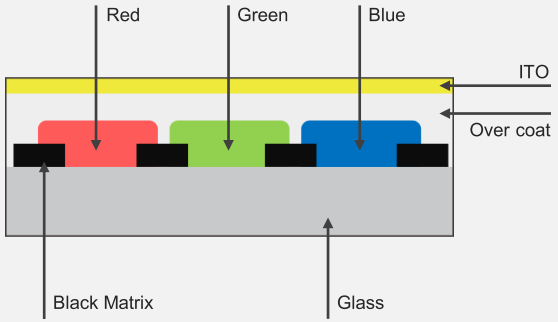
- PR
- Developer
- Stripper
- Etchant
- HSN



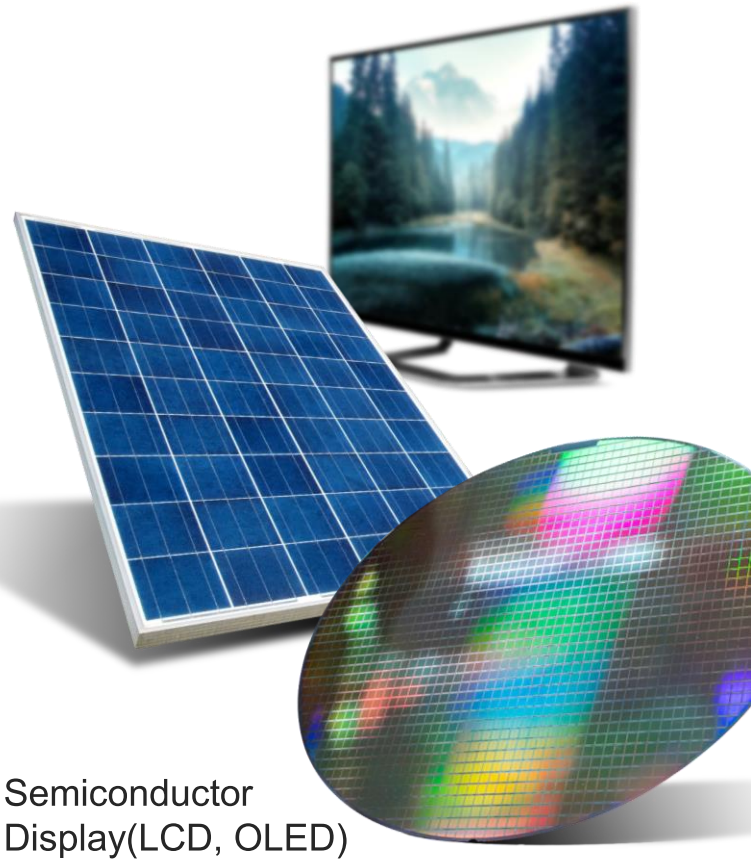
Functional chemicals

- ILD/PSPI
- Cu 도금액
- Color paste

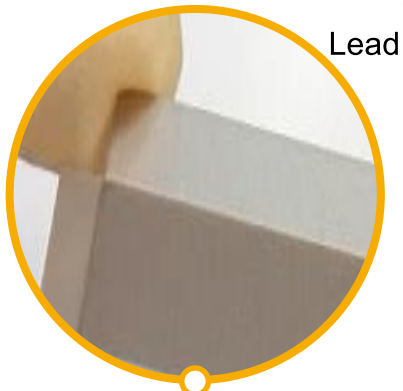


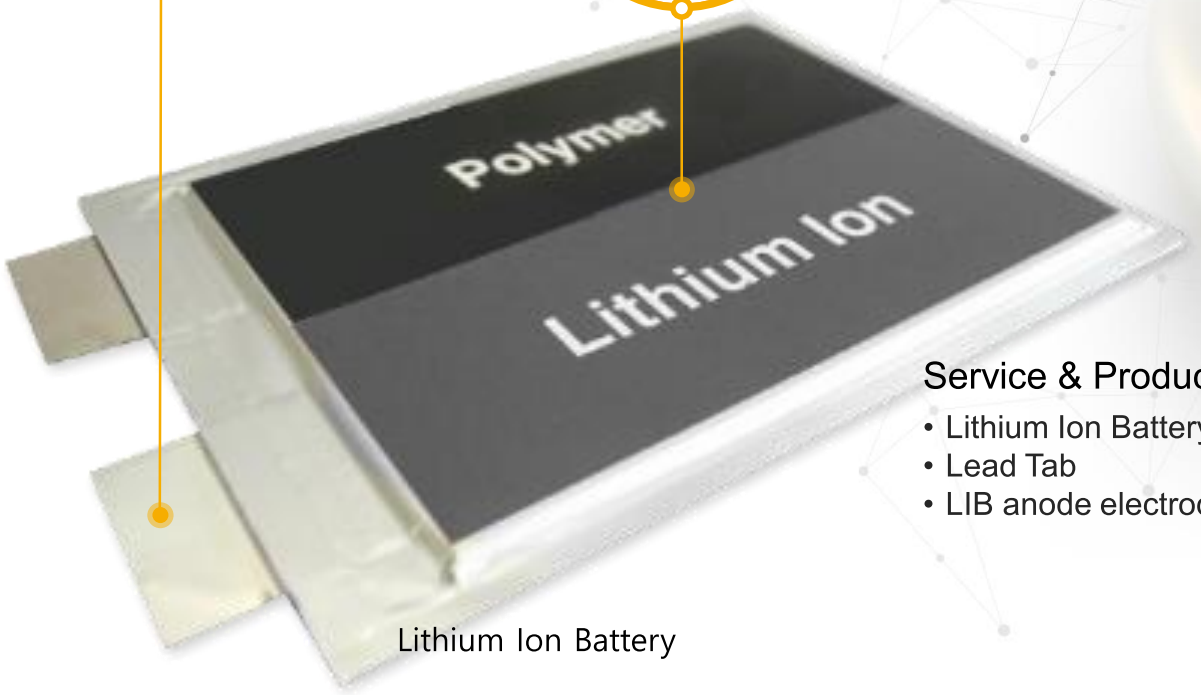


Applications



Semiconductor
Display(LCD, OLED)
Solar Cell





Lithium Ion Battery

Service & Products

- Lithium Ion Battery
- Lead Tab
- LIB anode electrode

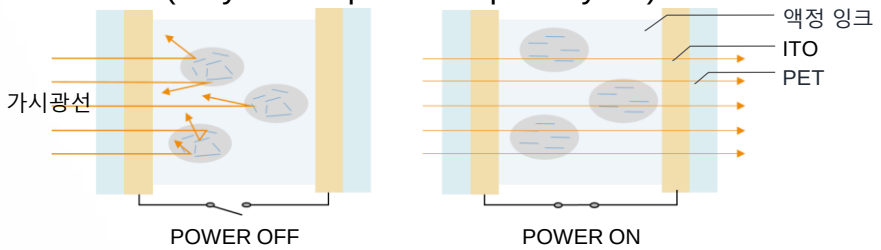
Applications

액정필름(Super LC)

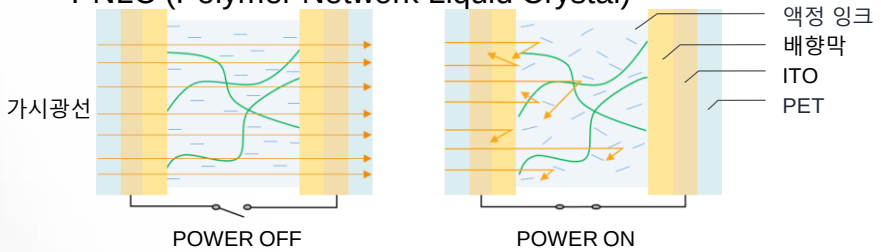
Signage 적용 사례

Super LC의 구조 및 원리

• PDLC (Polymer Dispersed Liquid Crystal)

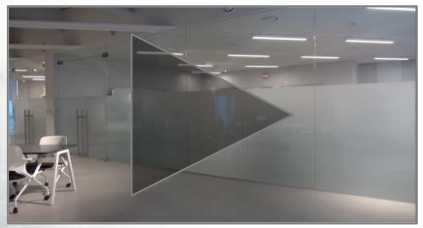


• PNLC (Polymer Network Liquid Crystal)



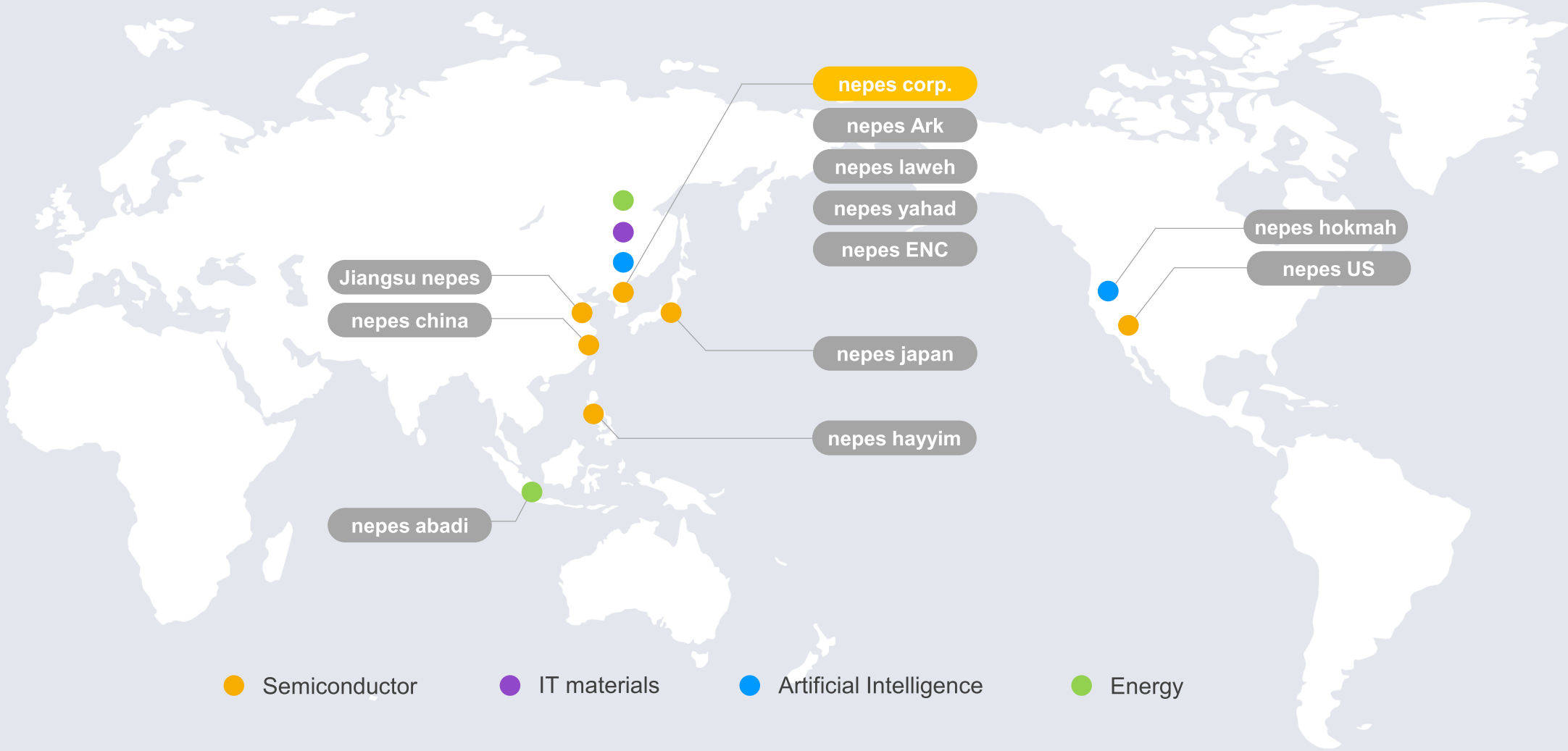
Service & Products

• Building & Interior
• Signage & Electronics



GLOBAL NEPES

우리의 기술과 제품을 가지고 땅끝까지 섬기겠습니다.



CORPORATE CULTURE

네패스는 기업문화 증강으로 성과를 창출하여 지속 성장합니다.

Global
NO.1
기업문화

3.3.7
LIFE

nepes corporation

THANK YOU

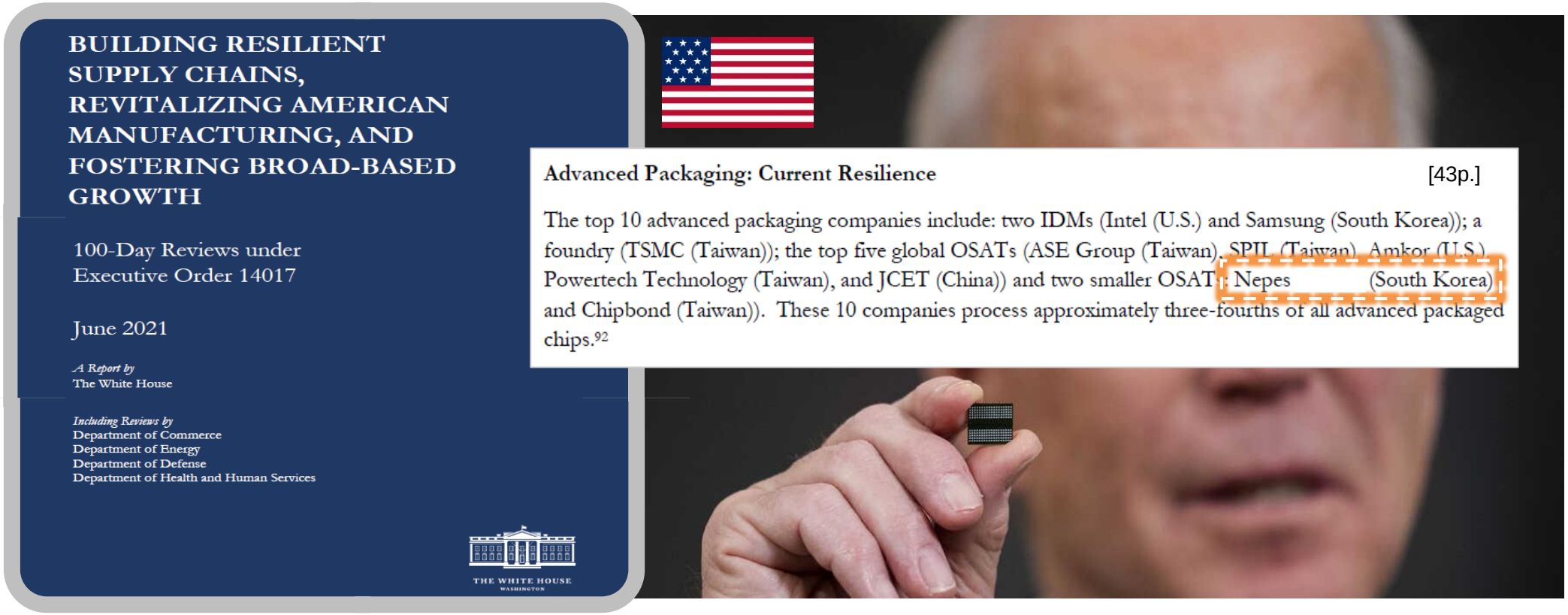
To Him who alone does great wonders, His love endures forever. Psalm 136:4
* A dandelion means ‘Gratitude’ in the language of flowers

nepes corporation
2415, Nambusunhwan-ro, Seocho-gu, Seoul, Korea
Tel : 02-3470-2700
Fax : 02-3470-2708
URL: www.nepes.co.kr

White House report quotation

바이든 대통령의 행정명령으로 백악관이 21년 6월 반도체 공급망 조사 검토 보고서 발표

- 보고서에는 국가 안보에 중요한 첨단 패키징의 필요성을 강조하여 국내 반도체 제조 생태계 강화하자는 제안과 함께 글로벌 Top10 첨단 패키징 기업 중 하나로 네패스를 조명함



[Source: The White House, 'Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-based Growth', Jun '21]

RECOGNITIONS 2 | Joining ASIC membership

IBM의 초청으로 22년 5월 American Semiconductor Innovation Coalition (ASIC)에 가입

- IBM 및 회원들은 네패스의 WLP 및 FOPLP와 같은 첨단 패키징에 대한 전문지식이 연합에 큰 가치를 제공할 것으로 기대

www.asicoalition.org

Coalition Members Include

APPLIED MATERIALS®
ALBANY NANOTECH COMPLEX
ANALOG DEVICES
AHEAD OF WHAT'S POSSIBLE™
IBM®
nepes
nepes corporation
Microsoft
MIT
MARVELL
SIEMENS

RECOGNITIONS 3 | International case study presentation

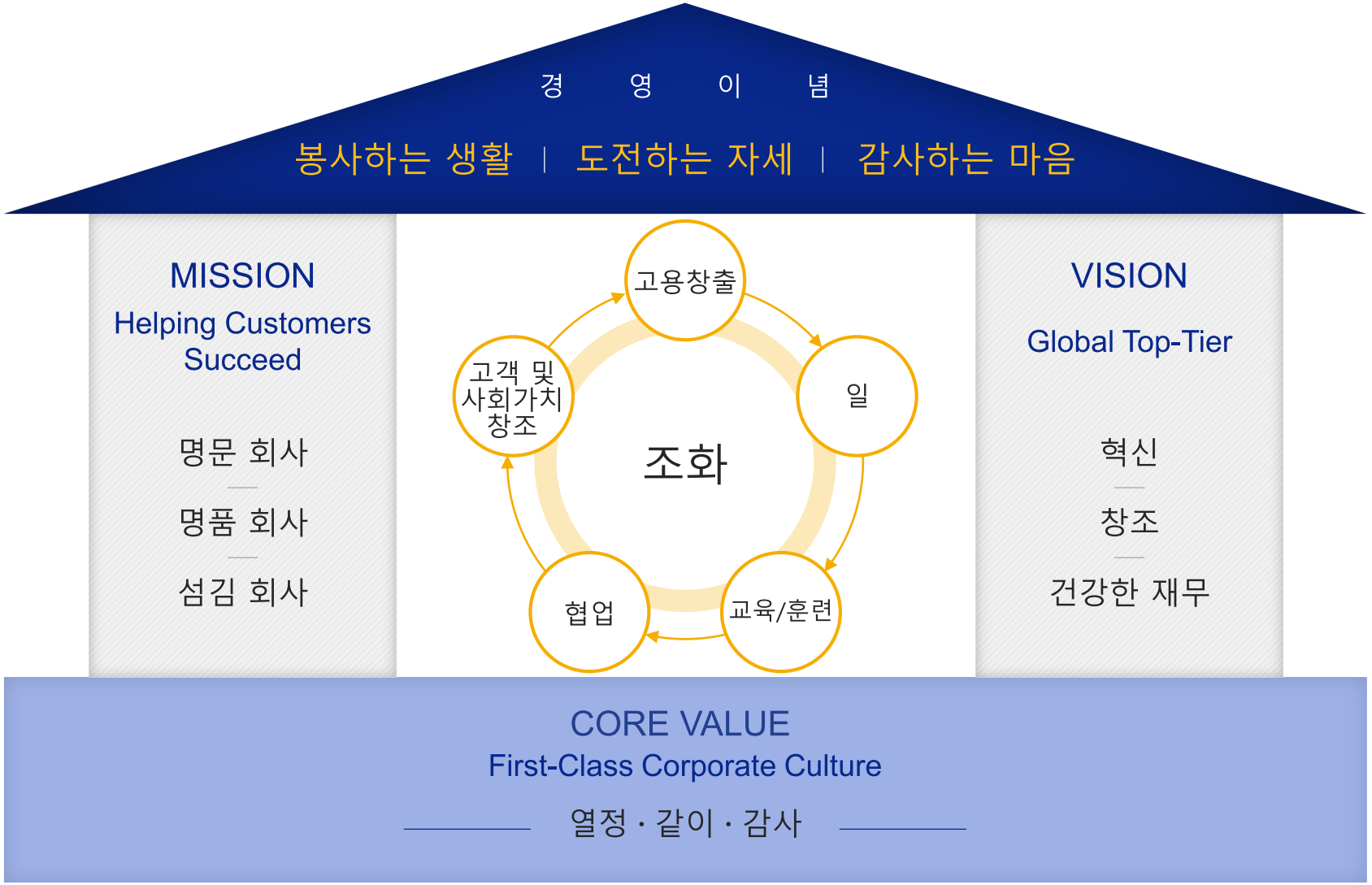
네패스만의 독특한 경영철학은 조직을 지속 성장하게 하는 창조적 경쟁력으로 인정받아
각종 국제 학술대회에서 우수 경영 사례로 소개

May 20, 2022 @St.John's Univ.
Global Conference on International HR Management

June 22-23, 2022 @ Michigan Univ.
Global Conference on Positive Organization

APPENDIX 1 | 경영설계도

네패스는 일관성 있게 경영철학을 실천해 나가는 기업입니다.



APPENDIX 2 | 인재상

네패스는 일을 잘할 수 있는 품성을 가진 사람들이 모인 공동체입니다.

네패스 LOGO

inthanks

'감사로 연결된 n가족 공동체'

고유 인사말

superstar

'슈퍼스타' 는 나보다
상대방을 높여 부르는 네패스
고유의 인사말 입니다.

nepes

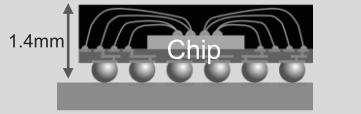
Market Trend

Smaller form factor
(Based on Wafer-Level Platform)

Highly integrated Wafer-Level System in Package

Tech. Roadmap

Conventional PKG

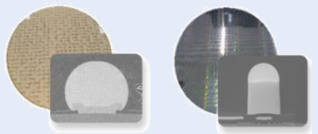


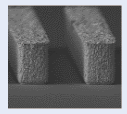
QFP

QFN

FCBGA

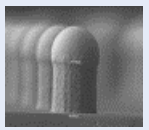
Bumping





Gold

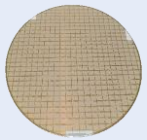
Solder



Etc(Cu Pillar, CNA bumping)

WLP

8”WLP

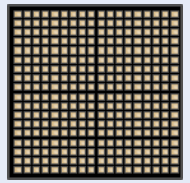


12”WLP

0.4mm

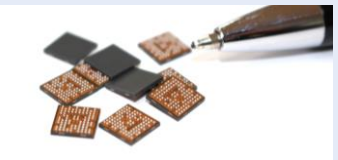
Fan-out WLP/PLP

nPLP™



600x600mm

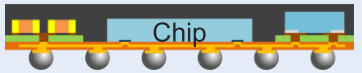
0.9mm



System in PKG

Multi-Chip Packaging

System in packaging



One Package Module

- AP, PMIC
- Flash Memory
- Neuromorphic

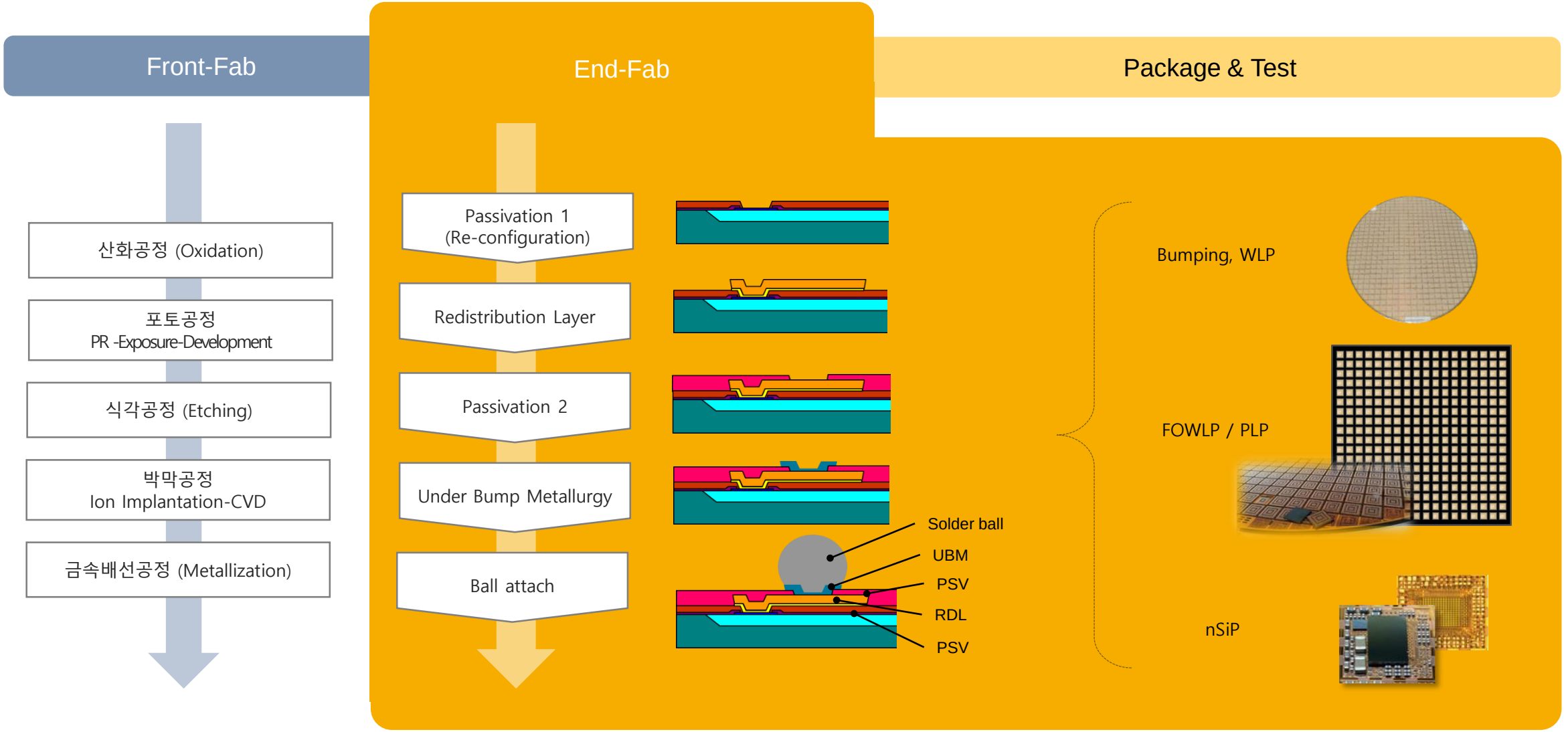
Position

nepes Back-end Foundry
(Bump, WLP, FOWLP, FOPLP, nSiP, TEST)

Other OSAT
Conventional wire bonding packaging & Typical WLP technology

APPENDIX 4 | What is End-fab?

Front-Fab 공정 이후 Passivation, RDL 공정 및 Bump 공정을 지칭합니다.



APPENDIX 5 | What is FOPLP?

- 네패스의 FOPLP는 업계 최대의 Panel 크기로 새로운 패널 표준입니다.
- FOWLP 경험과 재료 내재화, End-Fab 기술을 바탕으로 독자 FOPLP 기술을 확보하였습니다.