



# JABIL OPTICS OVERVIEW

OUR KEY BRANDS



OUR STRENGTH & SCALE

180K+  
DEDICATED  
EMPLOYEES

100  
LOCATIONS IN  
28 COUNTRIES

17,000  
SUPPLIERS

1,600  
CAPABILITIES

250  
TOP BRANDS

50  
YEARS OF MANUFACTURING  
& SUPPLY CHAIN EXPERIENCE

\$18B  
REVENUE

\$1.2B  
OPERATING  
CASH FLOW

OUR FOUNDATION

INTELLIGENT  
DIGITAL  
SUPPLY CHAIN



IP  
PROTECTION



SOCIAL &  
ENVIRONMENTAL  
RESPONSIBILITY



OPERATIONAL  
EXCELLENCE



PEOPLE &  
ENTREPRENEURIAL  
CULTURE

OUR  
END-TO-END  
SOLUTIONS

DESIGN  
Strategy & Innovation

PLAN  
Design Engineering

MAKE  
Process & Test Engineering

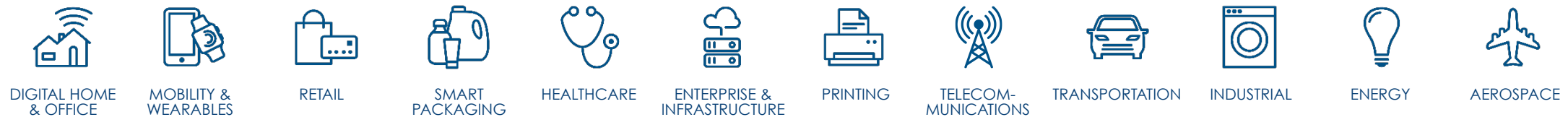
DELIVER  
Fabrication & Assembly

MANAGE  
Configure to Order  
& After Market

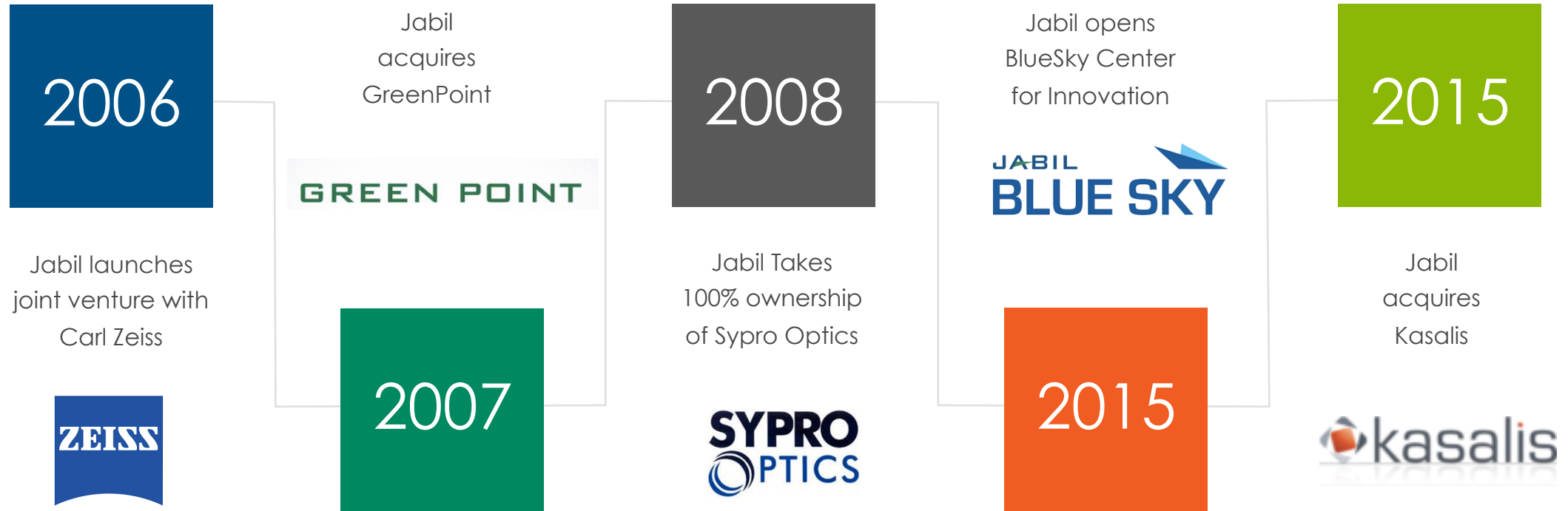
OUR  
STRATEGIC  
CAPABILITIES

GROWTH STRATEGY	EXPERIENCE DESIGN	AUTOMATION	ADDITIVE MANUFACTURING	DIGITAL PROTOTYPING	PRECISION MECHANICS	DRONES	ROBOTICS
ADVANCED ASSEMBLY & MINIATURIZATION	DYNAMIC TUNING	ADHESIVES	PRINTED ELECTRONICS	ACOUSTICS	FLUIDICS	POWER ELECTRONICS	OPTICS
SENSORS	E-TEXTILES	WIRELESS CONNECTIVITY	MATERIALS TECHNOLOGY	PRECISION TOOLING	CLOUD SYSTEMS INTEGRATION	OPTICAL NETWORKING	VALUE ENGINEERING

OUR  
MARKETS



# JABIL OPTICS: INVESTING IN THE FUTURE



Through strategic investments, Jabil has become a world-class manufacturing partner in optics.

# CORE SOLUTIONS

## COMPUTATIONAL CAMERAS

---

Advanced optics encode  
visual information for  
next-generation applications

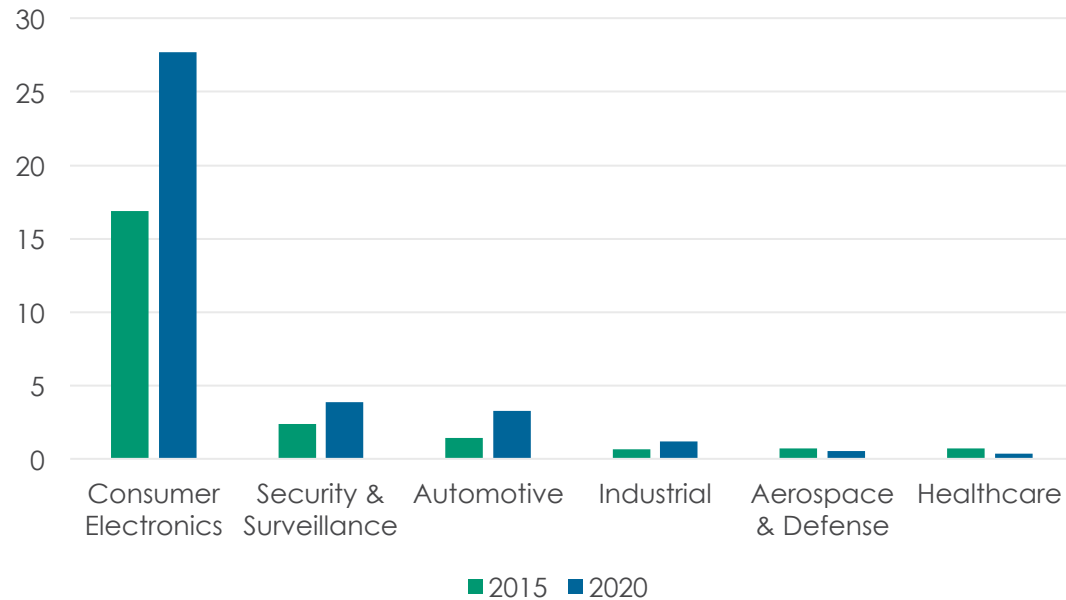
## PROJECTION SYSTEMS

---

Miniaturized projection systems  
for RGB image projector modules  
and IR pattern projector modules

# GROWING MARKETS

Camera Module Market, by Application, 2015 vs 2020, USD Billions

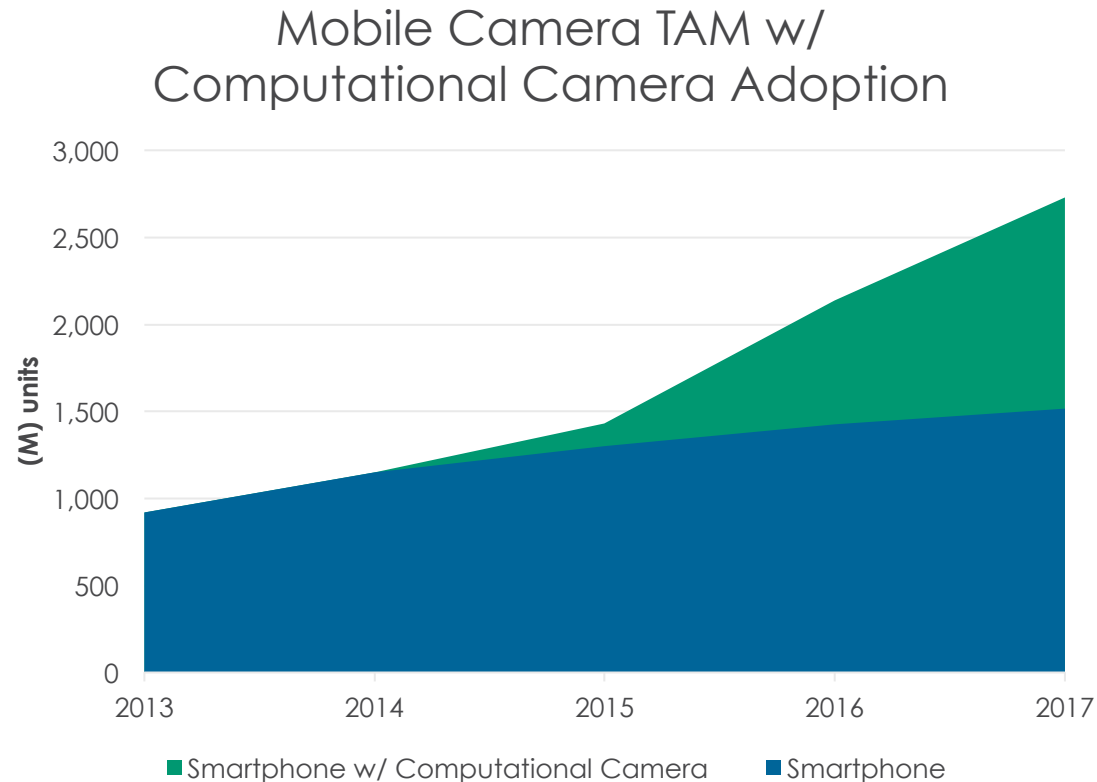


Note: CAGR is calculated for the period between 2015 and 2020.  
Source: Secondary Literature, Experts' Interviews and Markets and Markets Analysis

*“The growth of the market is propelled by the exponential growth in the consumer electronics application market; especially owing to the growing demand for devices such as cameras, smartphones, and tablets.”*

Source, Markets and Markets Global Forecast 2014 - 2020

# GROWING MARKET: COMPUTATIONAL CAMERAS



*“Mobile Devices Will  
Either Have 3D Sensors  
or Suffer Flat Sales...”*

TechCrunch, September 9, 2015

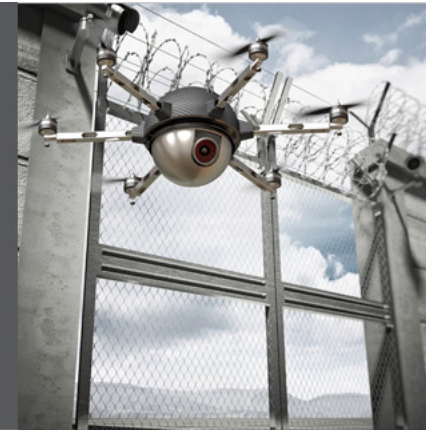
# KEY MARKETS DRIVE ADOPTION



PC / LAPTOP



ROBOTICS



MEDICAL



MOBILE PHONE



AUTOMOTIVE



SECURITY &  
SURVEILLANCE





# GROWING NUMBER OF CONSUMER USE CASES FOR 3D IMAGING



AVATAR  
PERSONALIZATION



3D SELFIE



E-COMMERCE SCANNING  
FOR THE PERFECT FIT



3D PRINTING



# SECURITY APPLICATIONS FOR 3D SENSING



## OBJECT PLACEMENT IN PUBLIC SPACES

(Ex: backpack left behind)



## OBJECT DETECTION CONNECTED HOME

(Ex: reducing false positives)



## MOBILE BANKING

(Ex: facial recognition/  
authorization)



## WALK-THROUGH SECURITY SCANNING

(Ex: detect presence, position, volume)

# AUTOMOTIVE 3D SENSOR/LIDAR APPLICATIONS

DISTRACTED/FATIGUED  
DRIVER DETECTION

SITUATIONAL AWARENESS

SECURITY &  
AUTHENTICATION

SEAT & AIR BAG  
ADJUSTMENTS

SMART HEADLAMPS

HEAD-UP DISPLAY

GESTURE RECOGNITION



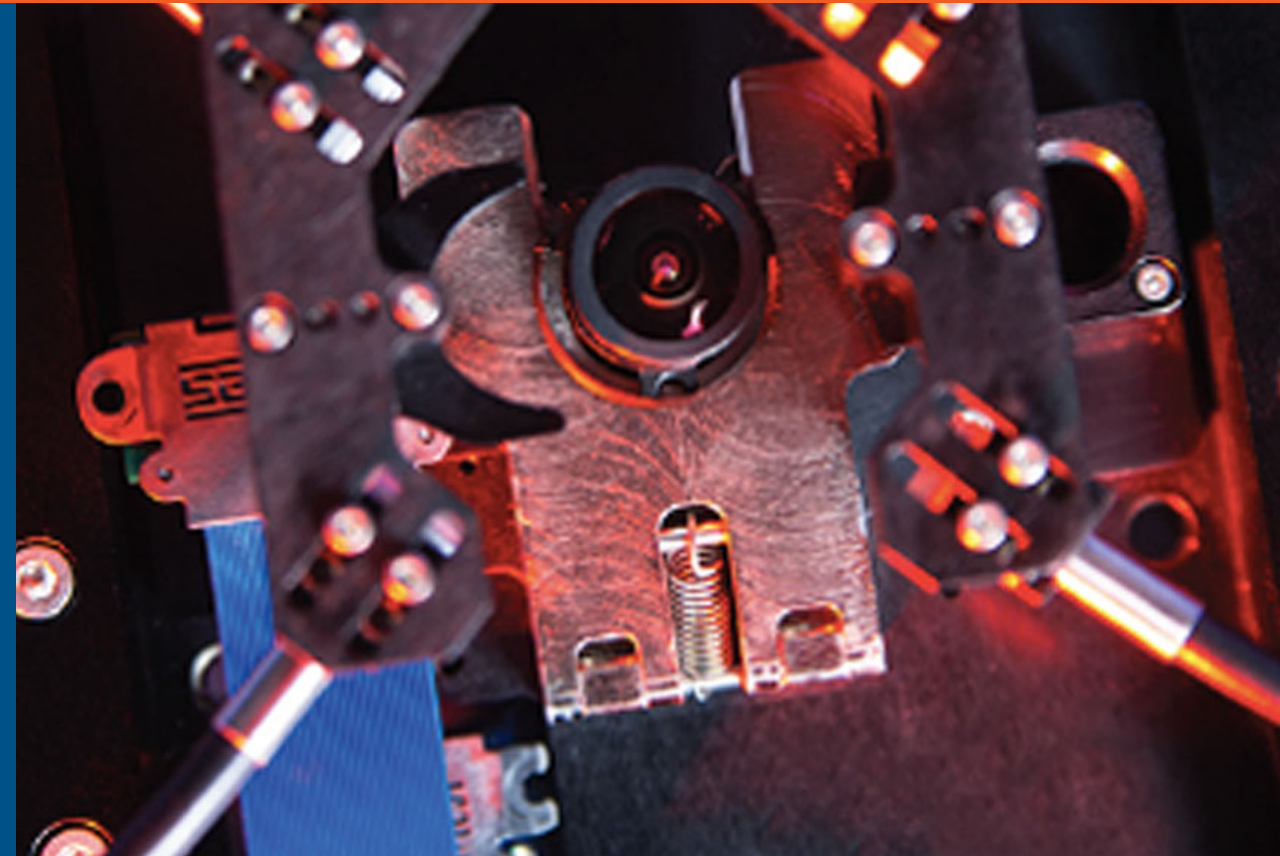


# ACTIVE ALIGNMENT FOR MINIATURIZATION

Maximum precision for better performance and yield.

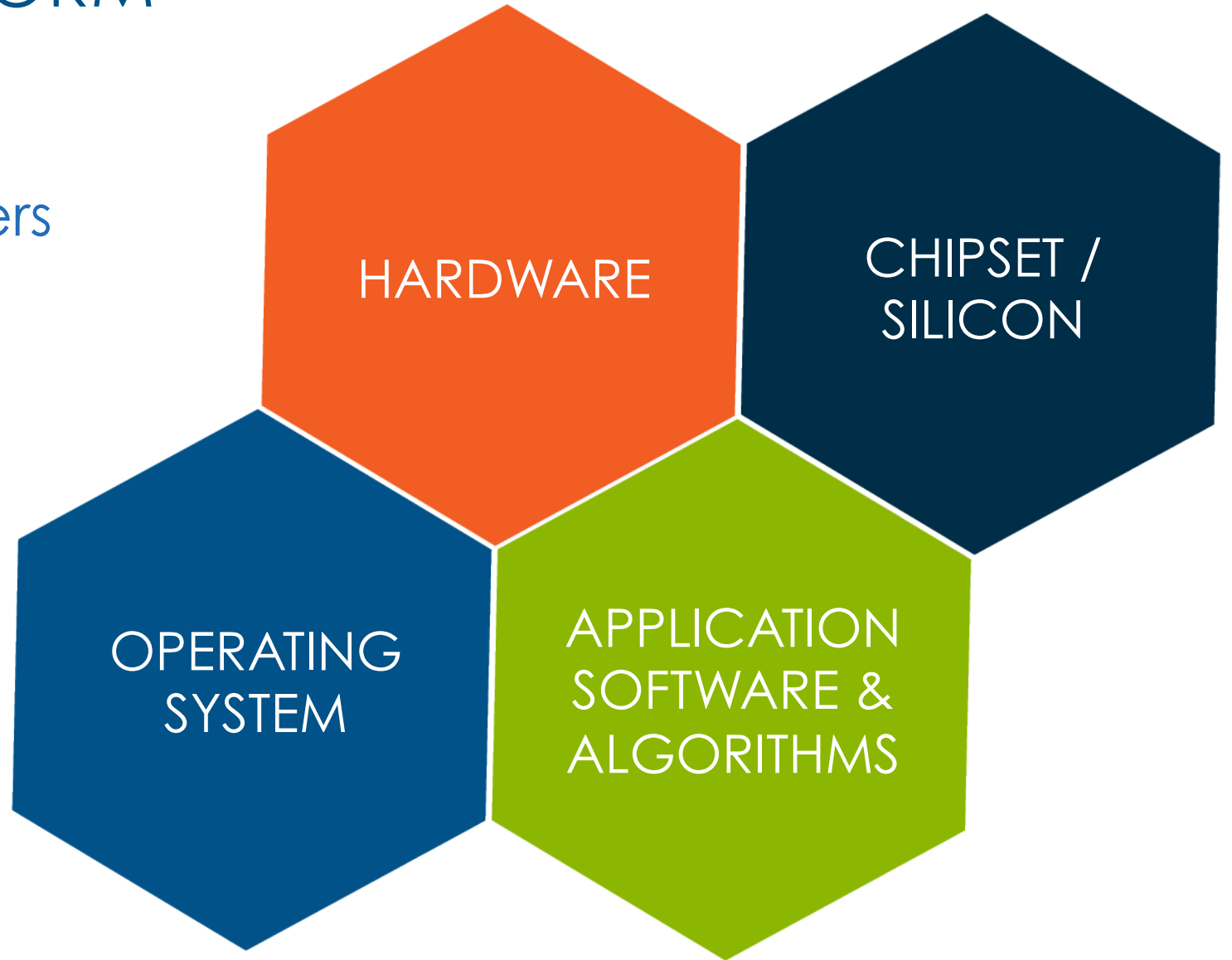
## TECHNOLOGY DEMANDS

- New devices more difficult to manufacture
- Lens must be closer to active device
- Larger aperture lens required
- Decreasing pixel pitch
- Multi-lenses (array, 3D)
- Vision analysis requirements
- Clean manufacturing environment
- CMs and OEMs must differentiate to increase margins

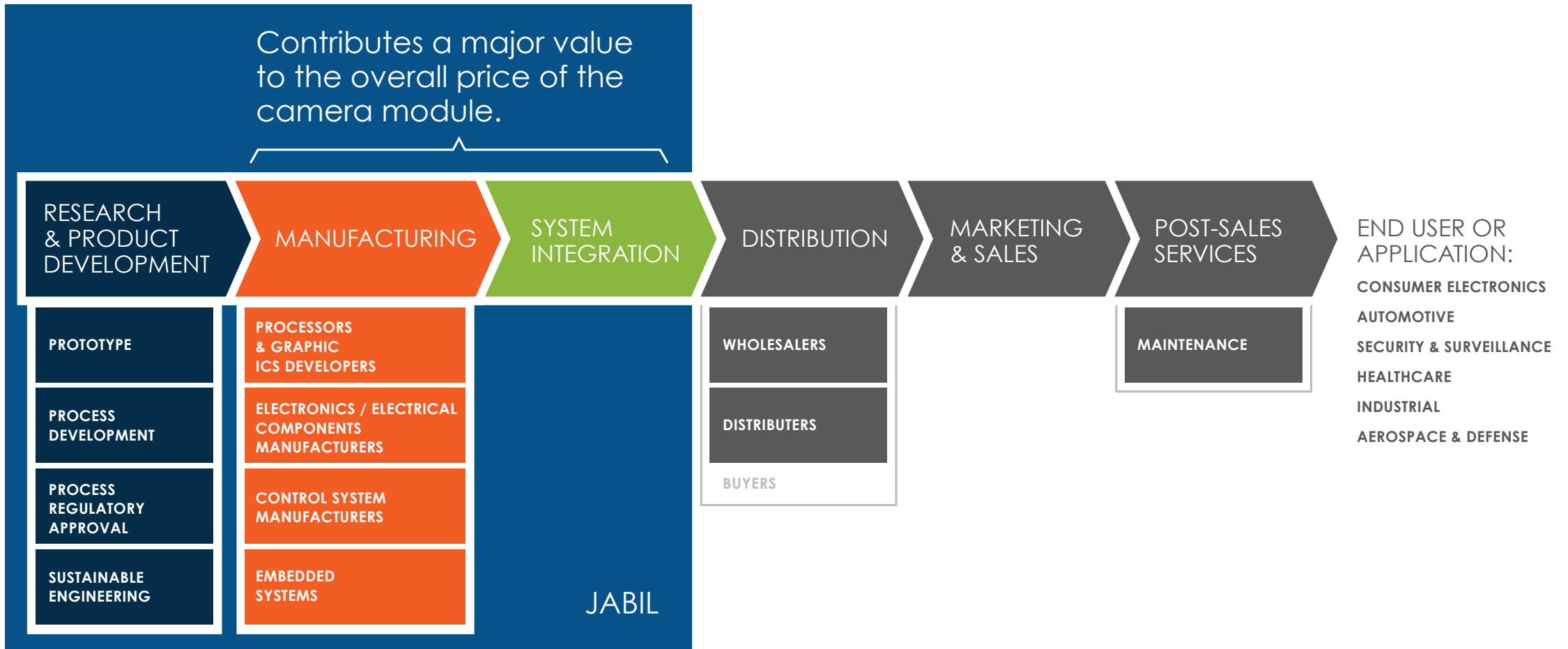


# VALUE OF THE PLATFORM

By partnering with leaders across the ecosystem, Jabil Optics is part of a comprehensive platform strategy.



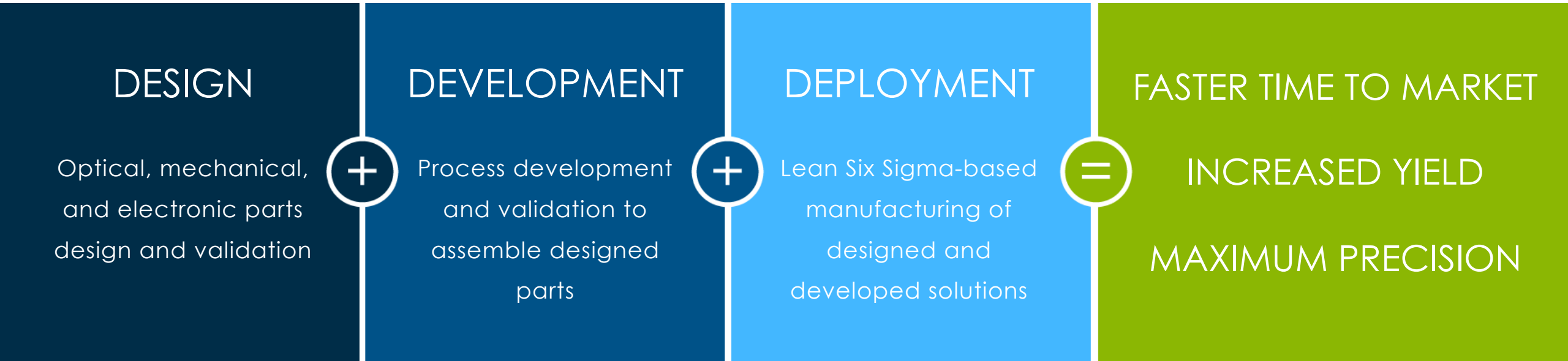
# JABIL ADDS VALUE DURING MANUFACTURING



SOURCE: MARKETS AND MARKETS 2015



# D3 – DESIGN, DEVELOPMENT, & DEPLOYMENT

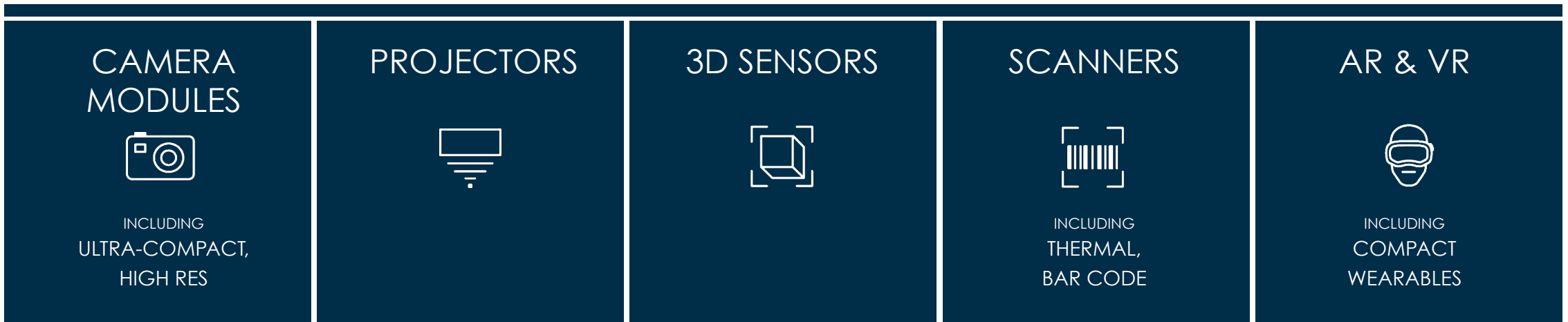


# BROAD SCOPE OF CUSTOMER EXPERIENCE

JABIL HAS PROVIDED



FOR



# GLOBAL CENTERS

## FOR INNOVATION, DESIGN, & EXCELLENCE



### PRODUCT DESIGN

#### OPTICS DESIGN CENTER, JENA

- Advanced optics design
- Opto-mechanical design
- Electrical engineering hardware and software
- Design for manufacturing
- Design for excellence



### PROCESS DEVELOPMENT

#### CENTER OF EXCELLENCE, SAN JOSE

- Advanced process solutions
- Optimal material and component selection
- Equipment guidance / selection
- New product introduction
- CoE focused on helping our customers innovate



### MANUFACTURING ENGINEERING

#### JABIL WORLDWIDE

- Production of optical lens assemblies and sub-assemblies
- New product introduction
- High volume production
- Final assembly
- Test
- Pack-out

# THANK YOU

*Jabil Optics — Building vision  
with embedded optical solutions.*