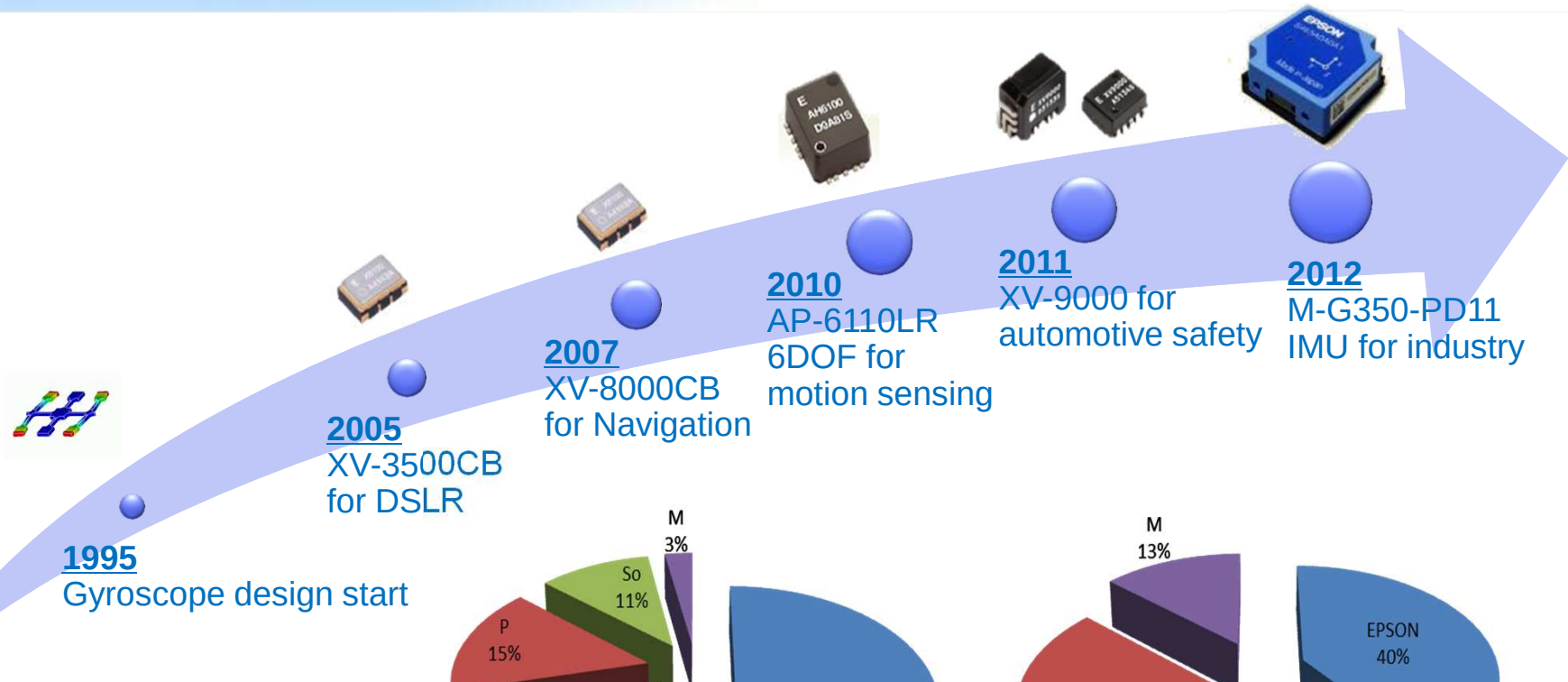
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Introduction of Gyroscope

May,2013
SEIKO EPSON Corporation
Microdevices operation division

EPSON Inertial Sensor history

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1995
Gyroscope design start

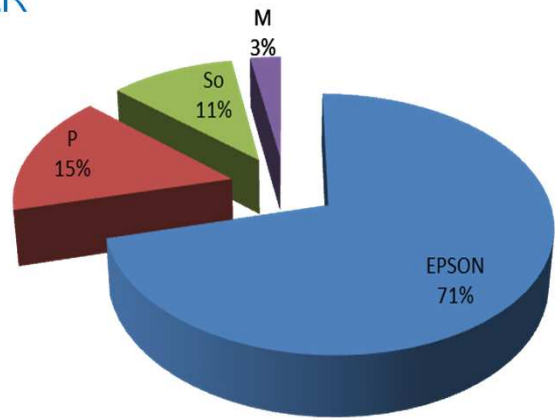
2005
XV-3500CB
for DSLR

2007
XV-8000CB
for Navigation

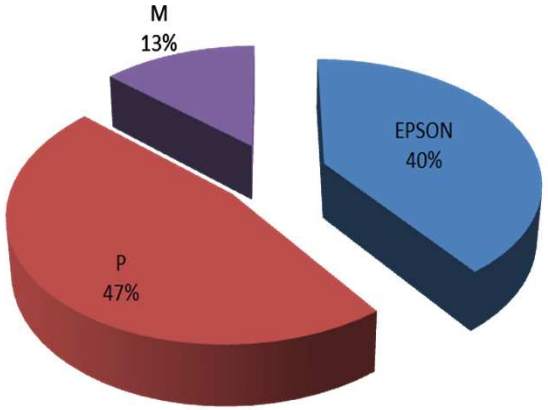
2010
AP-6110LR
6DOF for
motion sensing

2011
XV-9000 for
automotive safety

2012
M-G350-PD11
IMU for industry



D-SLR Market share CY11



Car Navigation market share CY11

DSLR ;digital single-lens reflex

We got the strong position in above applications.
We will expand to automotive safety application as next step.

Lineup of automotive gyroscope

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Present

Future Plan

ESC

X
XV-9100LP
Digital out

X
XV1002PD
Low Height

ESC

Z
XV-9100CD
Digital out

Z
XV1001DD
Combo

Rollover

X
XV-9300LP
Digital out

X
XV1012PD
Low Height

Navigation

Z
Tilt Z
6axis
XV-8000CB
XV-8000LK
AP-6110LR
Digital out
Digital out
Automotive Quality & Low Height

Z
Tilt Z
XV4001Bx
XV4001Kx

X
XV4002Px

3 axis
XV4xx5

Current product outline

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	XV-9xxxLP	XV-9xxxLV	XV-8000CB	XV-8100CB
Application	Safety		Navigation	PND
Quality	AEC-Q100		AEC-Q200	Consumer grade
Detecting axis	X	Z		
Operable temp.	-40 ~ +125ºC		-40 ~ +85ºC	
Sensor element	Double-T Structure of Quartz			
Package	Plastic mold (Ceramic PKG built in)		Ceramic	
Size	9.5 x 5.0 x 7.0	6.8 x 7.0 x 3.3	5.0 x 3.2 x 1.3	
Supply Voltage	4.75~5.25V			2.85~3.15V
Temp. compensation	Available			Not Available
Rate range	±100º/s (XV-9100) ±300º/s (XV-9300)		±60º/s	±100º/s
Scale factor	20mV/(º/s) (XV-9100) 6mV/(º/s) (XV-9300)		25mV/(º/s)	2.5mV/(º/s)
Ratio-metric	Available			Not Available
Frequency response	10Hz (XV-9100) 50Hz (XV-9300)		10Hz	200Hz
Diagnosis	Available		Not Available	

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Thank you for your attention