An Introduction of R-Car Gen3
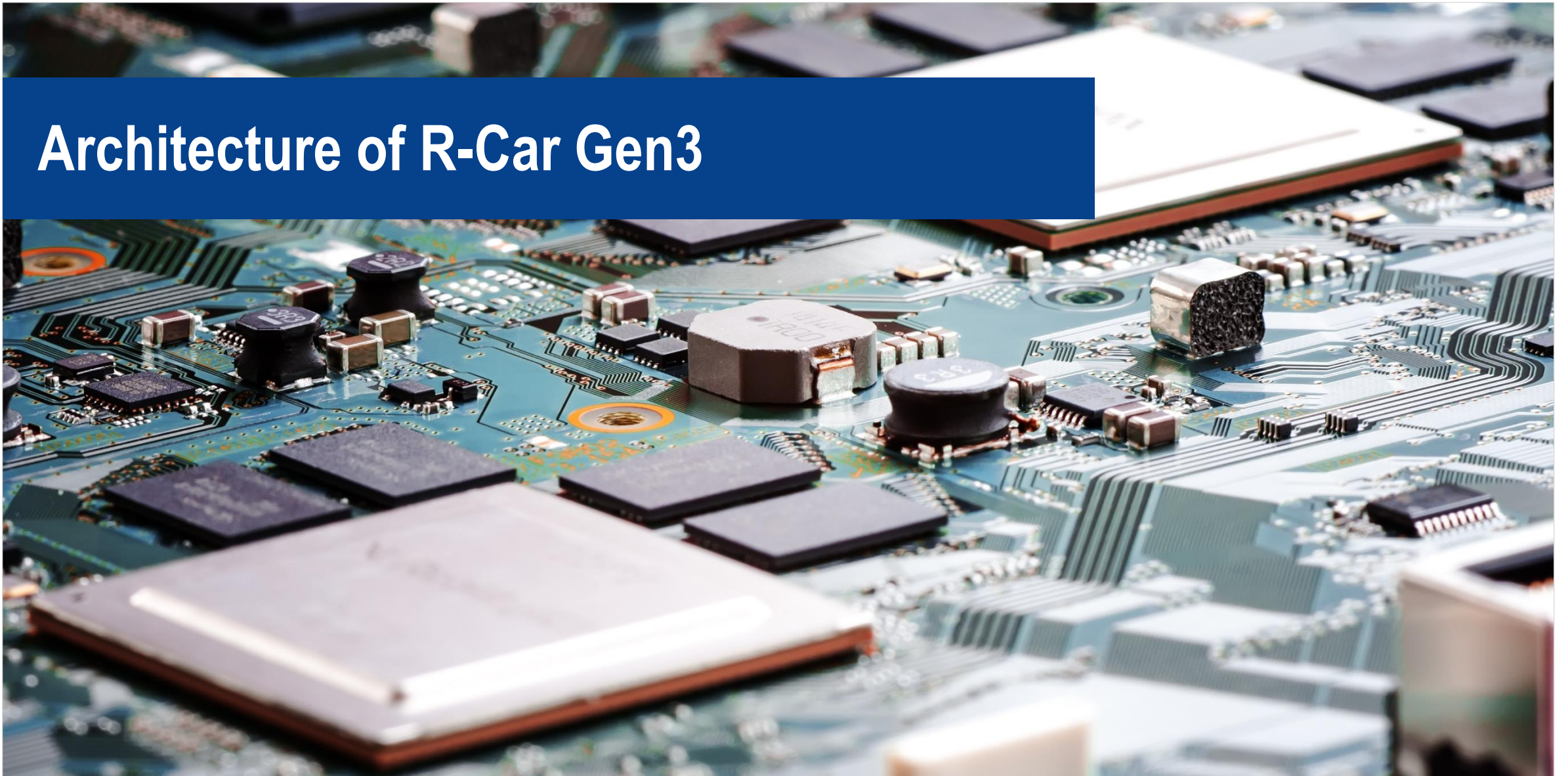
New Generation SoC and BSP for AGL

Automotive Information System Business Division
Renesas Electronics Corporation

v0.51

RENESAS

Architecture of R-Car Gen3

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AGL AND R-CAR GEN2

- Renesas introduced PORTER / SILK board mounting R-Car M2/E2 SoC

- Many AGL members are maintaining meta-renesas for AGL
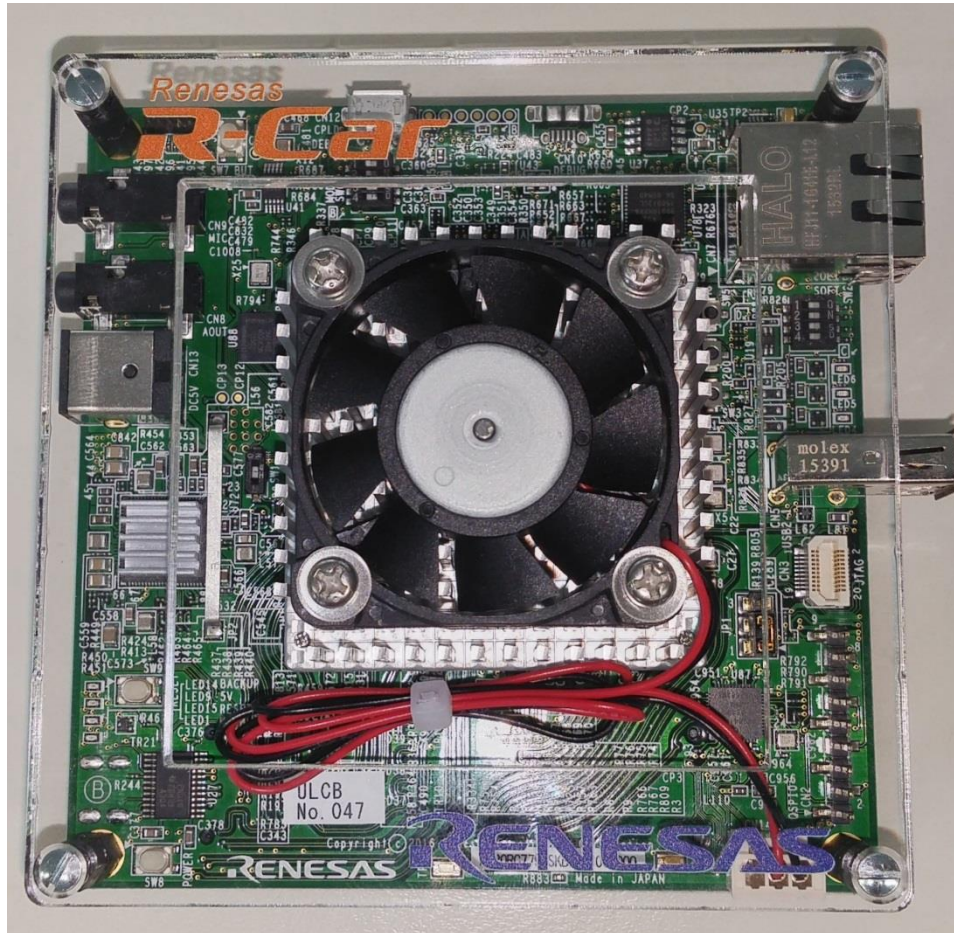
R-Car Gen2

R-Car Porter

R-Car Silk

http://image.itmedia.co.jp/mn/articles/1603/11/l_sp_160311agl_02.jpg
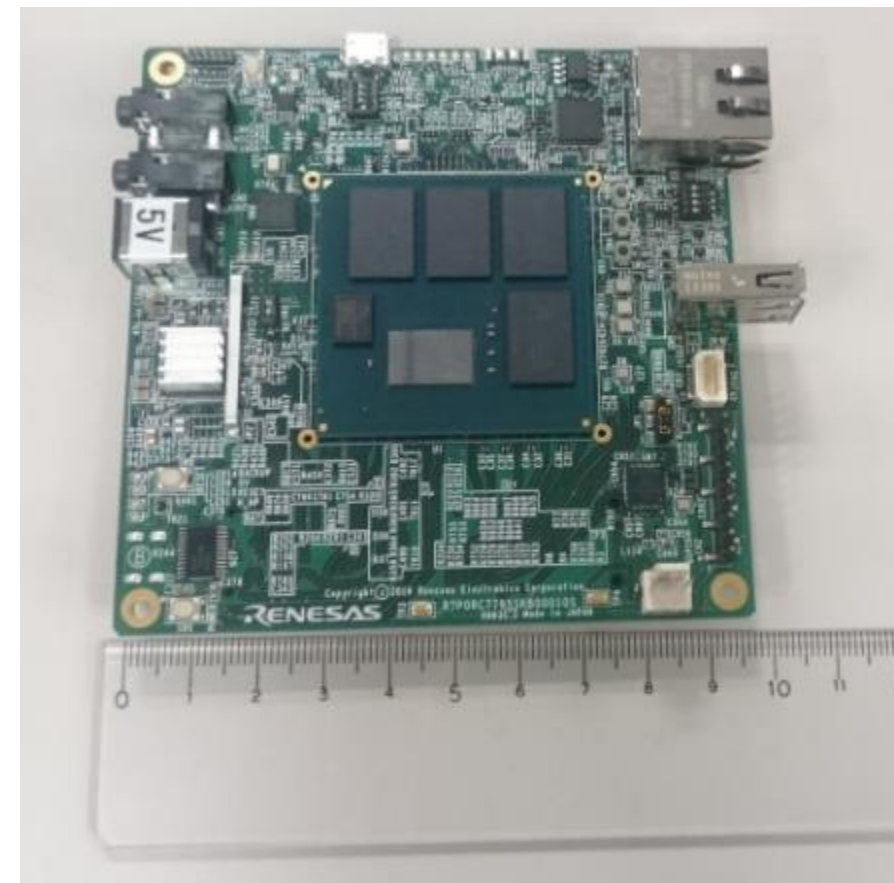
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H3/M3 STARTER KIT

The H3/M3 Starter Kit board are designed for evaluating the features and performance of the R-CAR H3/M3 of Renesas Electronics SoC.

It is also used for developing and evaluating application software for these R-CAR H3/M3.

Today we're demonstrating this board in the Demo Showcase

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H3/M3 STARTER KIT OVERVIEW

Function	H3-SK	M3-SK
SOC	H3(ES2.0) SIP	M3 SIP
DRAM	4GB LPDDR4	2GB LPDDR4
Flash memory	64MB flash (SIP) 16MB QSPI	<-
eMMC	8GB eMMC	<-
SDHI	1ch (MicroSD)	<-
USB2.0	1ch	<-
Ethernet	1ch (On board)	1ch (On board)
Display out	1ch (micro HDMI)	<-
Audio in/out	1ch/1ch	<-
JTAG	1ch	<-
Debug Serial	1ch	<-
SATA, PCIe, USB3.0, VideoIN,	No (COM Ex)	<-
EXIO Connector	COM Ex (440pin)	<-
Power	5V input	<-
Board size	95mmx95mm (8 layer BU)	<-
Parts Grade	**Consumer**	<-

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BSP for R-Car Gen3

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STRUCTURE OF BSP FOR R-CAR GEN3
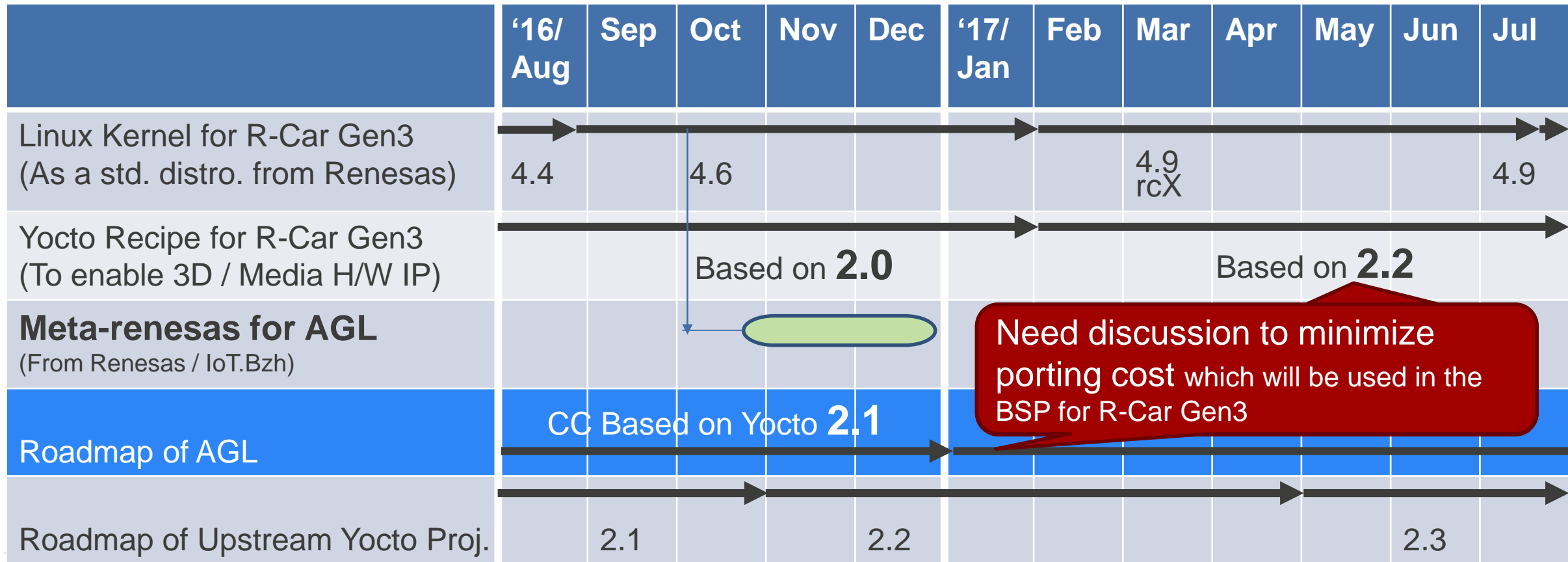
REVISIONS OF FUNDAMENTAL PACKAGES

- **It constituted from packages suitable for contemporary system than R-Car Gen2/PORTER**

  - **It would be updated at E/Jan. release due to rebase of yocto revision which refer to.**

Revisions of Packages		
	R-Car Gen3	R-Car Gen2
Linux Kernel	4.9rcX (would be updated to 4.9 ltsi, **4.6** is used while in 16)	3.10 ltsi
C-Language Runtime	**2.21-r0** or later	2.19-r0
Toolchain (gcc)	6.2, (**5.2** linaro-4.9-r2015.03 is used while in '16)	4.8.3 (linaro-4.8-r2014.04)
Wayland	1.11 (**1.9**)	1.5
OpenGL/ES	**3.1**	2.0
Gstreamer	1.7.2 (**1.4.5**)	1.2.3
Build Environment	Based on Yocto Project R2.2 (**R2.0**)	Based on Yocto Project R1.6

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ROADMAP OF AGL BSP FOR R-CAR GEN3

RELEASE SCHEDULE OF THE BSP

- **Renesas will release BSP and "meta-renesas for AGL"**

  - **Renesas and partners will care the gap between Yocto 2.1 and BSP of R-Car Gen3**

	'16/ Aug	Sep	Oct	Nov	Dec	'17/ Jan	Feb	Mar	Apr	May	Jun	Jul
Linux Kernel for R-Car Gen3 (As a std. distro. from Renesas)	4.4		4.6					4.9 rcX				4.9
Yocto Recipe for R-Car Gen3 (To enable 3D / Media H/W IP)			Based on **2.0**						Based on **2.2**			
Meta-renesas for AGL (From Renesas / IoT.Bzh)												
Roadmap of AGL		CC Based on Yocto **2.1**										
Roadmap of Upstream Yocto Proj.		2.1			2.2						2.3	

Need discussion to minimize porting cost which will be used in the BSP for R-Car Gen3

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Conclusion

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Conclusion

- Renesas will distribute R-Car Gen3 for AGL community

  - The H3/M3 Starter Kit board will be distributed

  - Also BSP will be distributed simultaneously

  - Renesas and partners will care about revision difference between Yocto 2.0 / 2.2 (used in BSP for R-Car Gen3) and Yocto 2.1 (used in AGL CC)

  - Binary packages to manage H/W IPs such that 3D Gfx / Multimedia will be distributed under same condition as it was done on R-Car Gen2 PORTER

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