IWG A-LCA
SG4 Use Phase
Status Update

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SG4 status

❑Agreement reached

- SG4 Scope, Boundaries (only GhG - maintance & regular consumption)
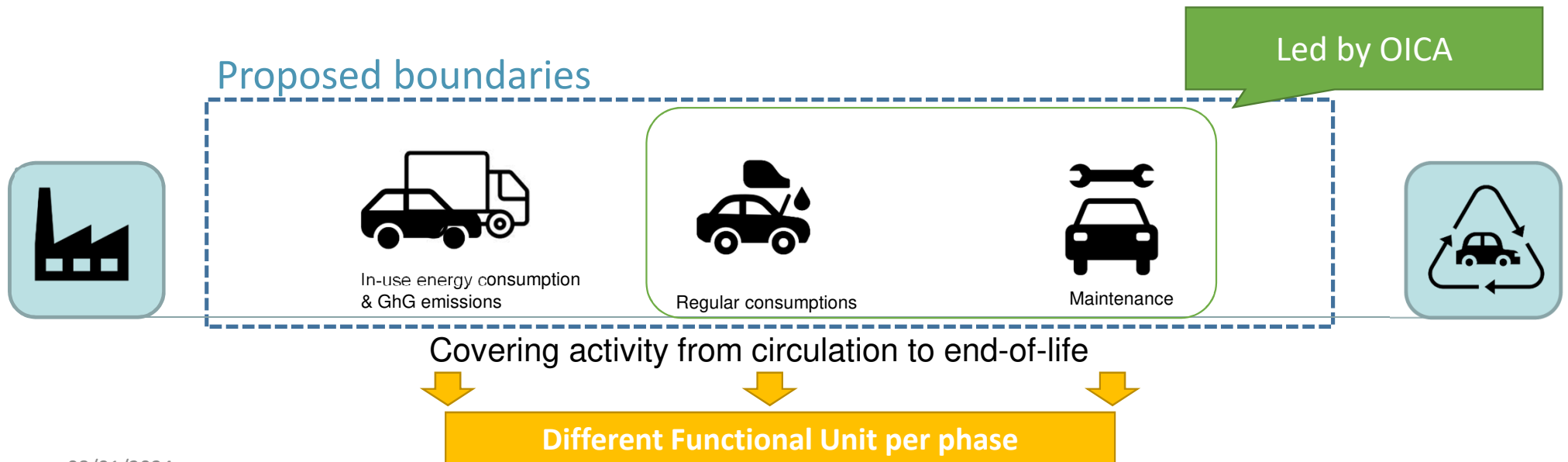- Created a dedicated team for maintenace and consumables topics

❑Still TBD

- Level concept draft matrix and work-flow implementation
- CO2eq calculation [Functional units tbd]
- Service life duration/milage definition
- In-use data to reflect realistic conditions: TA+Correction coefficient/OBFCM or local inventory
- Interactions with SGs

Discussion items for SG4

❑Boundaries definition

❑CO_2_eq calculation

❑Level Concepts for SG4

❑SG4 interactions

❑Next steps

SG4 Boundaries

- Define service life (OEM or Default) - official db? Need to collect data and produce first table of standards/datasets

- Define boundaries with other SGs

Proposed boundaries

Led by OICA

In-use energy consumption & GhG emissions

Regular consumptions

Maintenance

Covering activity from circulation to end-of-life

Different Functional Unit per phase

CO$_2$eq Calculation/Functional Unit

Lifetime GhG$_{use}$ [CO2eq] = GhG [CO2eq/km] * total average distance [km] + Maintainance * occurrences + waste (total)

gCO2eq/km > LDV
gCO2eq/tkm > HDV
gCO2eq/pkm > HDV

⚠️ GhG [CO2eq/km] = Energy consumption (MJ/km) * **Conversion Factor SG6** + Fuel Energy Consumption (g/km) * **Conversion Factor SG6** + fugitive emissions + other emissions (TBD from the guidebook)

Energy consumption OR Fuel energy consumption = TA Value (or equivalent) * RW correction factor [lvl1, lvl2, lvl3, lvl4] * degradation factor [lvl1, lvl2, lvl 3,lvl 4] other factors (?)

⚠️ **FUNCTIONAL UNIT TBD**

❑ [Energy and/or fuel mass] per [km – tkm – passenger km] for **in-use consumption**

❑ CO2 per spare part for **consumables**?

❑ CO2 per **maintenance** event?

08/01/2024

Level Concept for SG4 - JRC

USE PHASE	Reference Vehicle	Representative ness	Energy consumption		Maintenance	Service Life
			In-use	Charging		
Level 4	Specific OEM's **complete** vehicle model – as delivered	Specific vehicle	Homologation value corrected based on RW characteristic value (based on OBFCM or similar data provided by operators or adjustment factor)	Vehicle specific charging eff (at vehicle level, which standard?)	Model specific	OEM/Model specific average data
Level 3	Vehicle variants (same manufacturer/company, same essential body parts, body type, powertrain tech/energy carrier, same axles/class). Can be **incomplete**.	OEM/Model Variant	OEM-resolution and assumptions for RW performance corrected per adjustment factor	OEM average efficiency (standardised?)	OEM Specific	Regional with option to declared higher life
Level 2 to be determined, necessary if we want to be aligned with the other SGs.						
Level 1	General concept distinguishing per powertrain tech/energy carrier/size/emission standard and use.	Regional (EU/US/JP/KR/CN...) eg Guidebook, MOVES etc	Regional typical inventory or other local representative realistic data	Regional typical charging eff value	Generic/regional	Regional typical service life for each vehicle type

Level Concept for SG4 - Flowchart
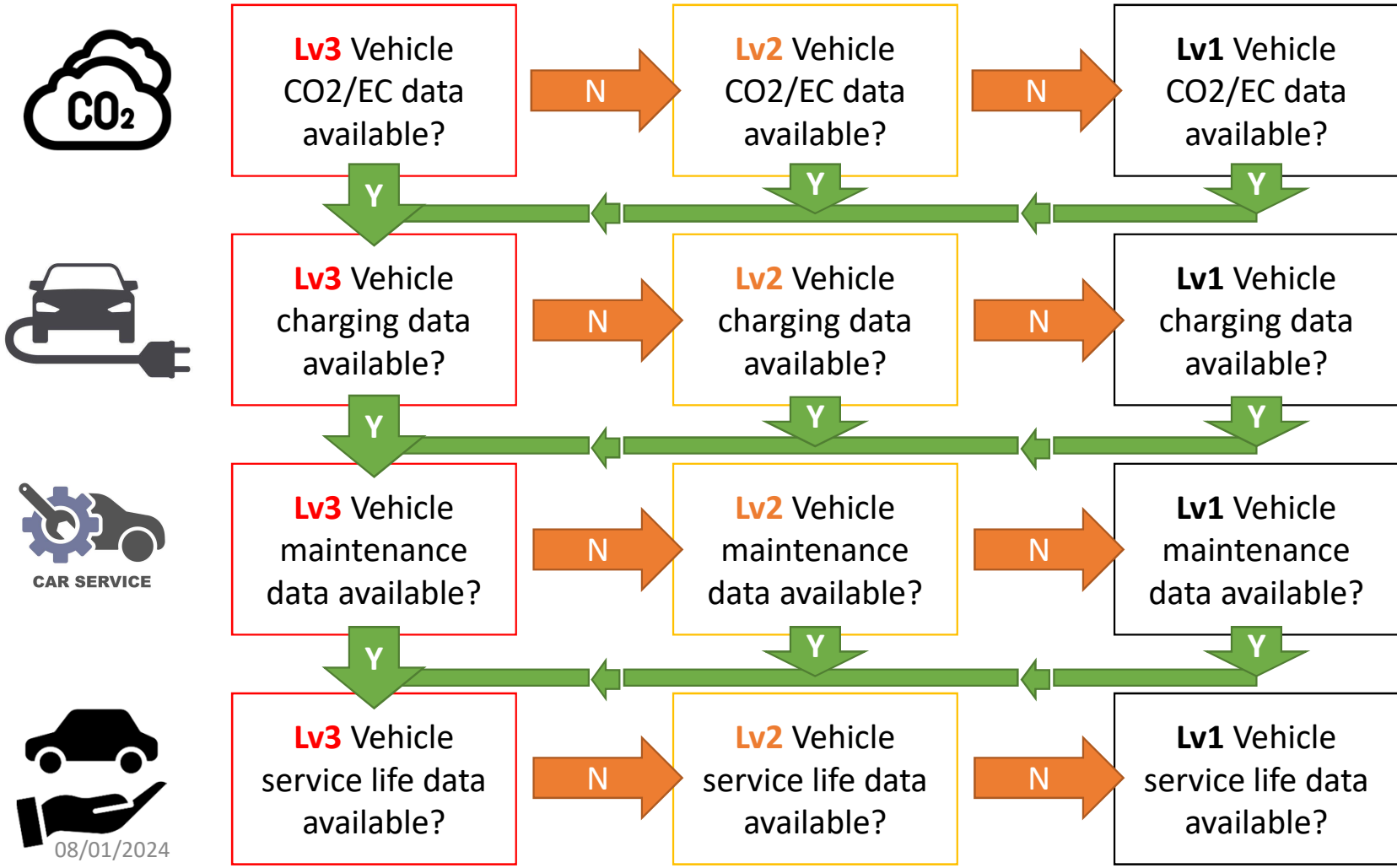
SG4 interactions

❑Which GhG to be considered?
　　❑CO2, CH4 and N20 + others due to leakages etc?

❑Charging and infrastructures: define cut-off criteria for upstream emissions

❑Reparability and maintenance: where is the boundary with other SGs?

Next steps

❑Schedule meeting w SG6 for
   ❑Fuel/Energy Conversion factors
   ❑Define boundaries and cut-off criteria

❑Define CO_{2eq} calculation formula and functional units

❑Finalize Level Matrix

❑Include Maintenance and Consumables

❑SG4 meeting on 16/01

08/01/2024

SG4 Meeting Schedule Plan

September	October	November	December	January	February
-	10th – SG4 4th meeting	5th – SG4 4th meeting	4th – A LCA 12th IWG	8/9th – A LCA 13th IWG @Geneva	
7th – A LCA 10th IWG	17/18th – A LCA 11th IWG @BRU		12th – SG4 6th meeting	16th – SG4 7th meeting	8th – SG4 8th workshop

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Thank you

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