



Feedback on demonstrations and use case interoperability

V2.0

Deliverable D3.3

29/08/2019



This project has received funding
from the European Union's Horizon 2020
research and innovation programme under
grant agreement n°731289

ID & Title :	D3.3 Feedback on demonstrations and use case interoperability		
Version :	V2.0	Number of pages :	38
Short Description			
This report provides a feedback on interoperability and cyber-security issues faced by the demonstrations, and defines recommendations for future projects.			
Revision history			
Version	Date	Modifications' nature	Authors
1.0	15/12/2018	First version including feedback from TC, submitted to the EC	Olivier Genest
1.1	23/05/2019	Including FR demo and updating DE demo	Friederich Kupzog, Jawad Kazmi, Milica Savic, Sergio Potenciano-Menci, Marco Cupelli, Amir Ahmadifar, Mirko Ginocchi, Jonas Baude, Olivier Genest, Frédéric Mesureur, Vincent Maury
2.0	29/08/2019	Update following TC review. Second version submitted to the EC	Olivier Genest
Accessibility			
<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Consortium + EC	<input type="checkbox"/> Restricted to a specific group + EC	<input type="checkbox"/> Confidential + EC
Owner/Main responsible			
Name(s)	Function	Company	Visa
Olivier Genest		TRIALOG	

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Company	Name(s)
Enedis, Avacon, CEZ Distribuce, E.ON, Enexis, RWTH	

WP ID	WP 03	Task ID	T3.1

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EXECUTIVE SUMMARY

The goal of this document is to provide a synthesis of the identified or faced interoperability and cyber-security issues in the different InterFlex demonstrators, to detail the feedback from the demonstrators, and to highlight recommendations for future projects.

It is strongly linked to deliverable D3.1 (see [1]), in which the interfaces of interest are described.

At the beginning of the InterFlex project, the architectures of the demonstrators have been studied by T3.1 contributors to highlight the main risks from interoperability and cyber-security perspective and define some recommendations.

Based on the feedback from the demonstrators, only few interoperability and cyber-security issues were effectively faced during the demonstrator.

The solutions implemented in the scope of the project are acceptable in the scope of a demonstrator, but may show strong limits when generalizing or rolling out a solution at higher scale.

In this purpose, recommendations and work to be done have been identified by T3.1 contributors and detailed in §4:

- **Interoperability:** The existing standards or candidate standards for each interface have been identified and assessed from maturity and future-proof perspectives.
Then, 3 main recommendations have been established:
 - To rely on standards instead of proprietary protocols to allow interoperability.
 - For demonstration purpose, to use future-proof standards, even with low maturity, to implement new use-cases and future business models.
 - For massive roll-out, to wait for a good maturity of the standards.
- **Cyber-security:** The main recommendation is to rely on NIST guidelines for smart grid security (see [2]). The mapping between the NIST requirements and the interfaces of InterFlex demonstrators has been established and is detailed in Annex 1 (see §5).

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1. INTRODUCTION

1.1. Scope of the document

The main objective of this deliverable is to provide a synthesis of the identified or faced interoperability and cyber-security issues in InterFlex demonstrators, to detail the feedbacks from the demonstrators, and to highlight recommendations for future projects.

The interfaces of interest are described in deliverable D3.1 (see [1]).

At the beginning of the project, some specific interfaces have been identified as critical ones from the interoperability and cyber-security points of view. Afterwards, some feedbacks regarding the above-mentioned issues have been collected from the demonstrators through some sets of questionnaires at mid-project.

This deliverable will then provide a synthesis of the collected interoperability and cyber-security issues and additional recommendations for future projects.

1.2. Notations, abbreviations, and acronyms

The table below provides an overview of the notations, abbreviations and acronyms used in the document.

BMS	Building Management System
BSI	Bundesamt für Sicherheit in der Informationstechnik
CPO	Charging Point Operator
CTR	Common Technical Requirement
DER	Distributed Energy Resource
DSO	Distribution System Operator
EC	European Commission
EG	Expert Group
EMS	Energy Management System
EU	European Union
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
GDPR	General Data Protection Regulation
GRC	Governance, Risk and Compliance
NC RfG	Network Code on Requirements for Generators
NIST	National Institute of Standards and Technology
PII	Personally Identifiable Information
SCADA	Supervisory Control And Data Acquisition
SGTF	Smart Grid Task Force
TC	Technical Committee
TRL	Technology Readiness Level
UTR	Unique Technical Requirement
WP	Work Package

Figure 1. List of acronyms

1.3. EU Expectations from InterFlex

InterFlex is a response to the Horizon 2020 Call for proposals, LCE-02-2016 (“Demonstration of smart grid, storage and system integration technologies with increasing share of renewables: distribution system”).

This Call addresses the challenges of the distribution system operators in modernizing their systems and business models in order to be able to support the integration of distributed renewable energy sources into the energy mix. Within this context, the LCE-02-2016 Call promotes the development of technologies with a high TRL (technology readiness level) into a higher one.

InterFlex explores pathways to adapt and modernize the electric distribution system in line with the objectives of the 2020 and 2030 climate-energy packages of the European Commission. Six demonstration projects are conducted in five EU Member States (Czech Republic, France, Germany, the Netherlands and Sweden) in order to provide deep insights into the market and development potential of the orientations that were given by the call for proposals, i.e., demand-response, smart grid, storage and energy system integration.

With Enedis as the global coordinator and ČEZ Distribuce as the technical director, InterFlex relies on a set of innovative use cases. Six industry-scale demonstrators are being set up in the participating European countries:

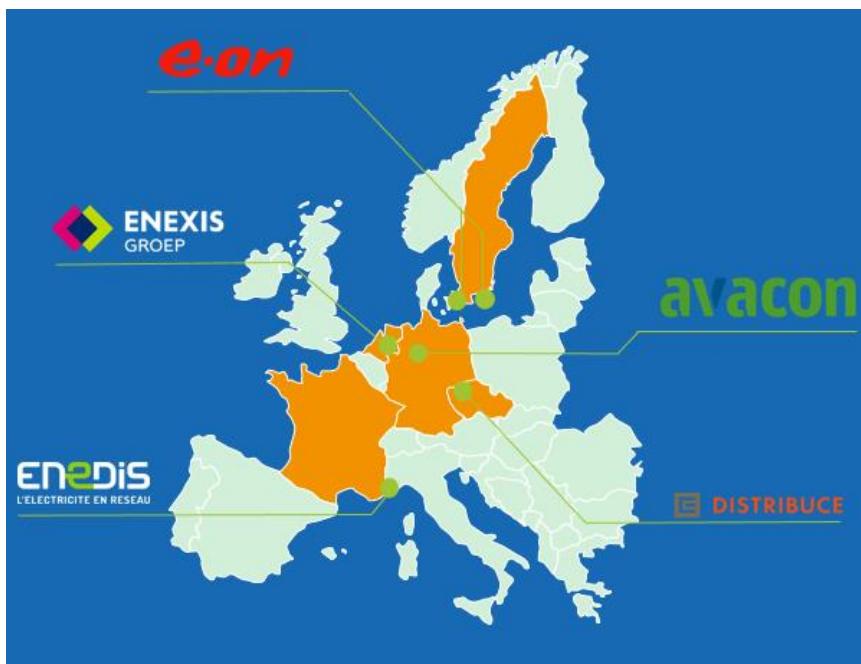


Figure 2. InterFlex Demo Map

Through the different demonstration projects, InterFlex assesses how the integration of the new solutions can lead to a local energy optimisation. Technically speaking, the success of these demonstrations requires that some of the new solutions, which are today at TRLs 5-7, are further developed reaching TRLs 7-9 to be deployed in real-life conditions.

The LCE-02-2016 call, as well as the other smart grid calls from Horizon 2020 program, explicitly required to perform “a detailed analysis of current regulations, standards and interoperability/interfaces issues applying to their case, in particular in connection to ongoing work in the Smart Grid Task Force and its Experts Groups in the field of Standardisation (e.g. CEN-CLC-ETSI M/490)”.

In particular, interoperability and standards are key enablers to allow the replicability of the project results, by ensuring a harmonised solution between EU countries.

The work detailed in this deliverable replies to these expectations by providing feedback and recommendations based on the practical implementation and operation of the 6 demonstrators of the project.

1.4. References

- [1] InterFLEX D3.1, Demo and use case view on required interfaces/functionalities - Version 3.0, June 2019
- [2] [NIST Guidelines for Smart Grid Cyber Security \(NISTIR 7628\), September 2010](#)
- [3] EECSP-Final Report Cyber Security in the Energy Sector - Recommendations for the European Commission on a European Strategic Framework and Potential Future Legislative Acts for the Energy Sector, February 2017

2. Critical interfaces from interoperability and cyber-security point of view

2.1. Methodology and criteria

During the first period of the project, several workshops have been organized with the demonstration leaders to establish the system architecture and identify the critical interfaces from interoperability and cyber-security point of view.

The criteria for selecting an interface (between components) as critical from the interoperability or cyber-security perspective are detailed below:

Interoperability criteria:

- **The interface is between different actors.** In such case, there is a risk of different understandings of the interface and therefore potential difficulties to align the implementations, possibly leading to interoperability issues.
- **No clear standard is identified in the industry for this interface.** In such case, additional work is required to identify a good solution. Furthermore, the lack of maturity of the solution may lead to interoperability issues.

Cyber-security criteria:

- **The interface is easily accessible.** In such a case, the attacks are made easier and the cyber-security solution is therefore critical.
- **The interface is based on a legacy protocol.** Legacy protocols are usually not at the state of the art of cyber-security, which is critical from cyber-security perspective.
- **Some personal data is exchanged through this interface.** EU regulations about personal data, in particular in light of the GDPR, make such interfaces as critical from cyber-security perspective.

The interfaces do not have to fulfil all the criteria to be considered as critical. These criteria have to be taken into account altogether to consider the overall criticality of an interface from either interoperability or cyber-security perspective.

2.2. Identified critical interfaces

The criteria detailed in §2.1 have been applied to the interfaces of the demonstrators during dedicated workshop organized with the demonstration leaders during the first semester of the project. As a result, the identified interfaces are listed below.

2.2.1. From interoperability perspective

Interface id (see [1])	Layer	Justification
CZ2.1	Information	Lack of standard data model for this interface at EU level Connection between different actors
CZ2.x DER connection to grid	Electro-technical	Lack of standard DER connection rules at EU level

CZ3.3	Communication & Information	Lack of industry standard for this interface at EU level Connection between different actors
CZ4.3	Communication & Information	Lack of industry standard for this interface at EU level Connection between different actors
NL1.4 NL2.4 NL3.2	Communication & Information	Lack of industry standard for this interface at EU level Connection between different actors
NL1.1a	Communication & Information	Lack of industry standard for this interface at EU level
DE2	Communication & Information	Lack of industry standard for this interface at EU level Connection between different actors
DE9	Communication & Information	Lack of industry standard for this interface at EU level
SE3.32	Communication & Information	Lack of industry standard for this interface at EU level Connection between different actors
SE3.25	Communication & Information	Lack of industry standard for this interface at EU level
SE3.22	Communication & Information	Lack of industry standard for this interface at EU level
FR3.3	Communication & Information	Lack of industry standard for this interface at EU level
FR3.5, FR3.7, FR3.8	Communication & Information	Lack of industry standard for this interface at EU level
FR1.6, FR1.7, FR3.4	Communication & Information	Lack of industry standard for this interface at EU level

2.2.2. From cyber-security perspective

Interface Id (see [1])	Justification
CZ1.x Local UI of Smart PV inverter	Easily accessible interface
CZ2.x Local UI of the DER control system	Easily accessible interface
CZ2.1 CZ2.2 CZ2.3	Legacy protocol
CZ3.2	Legacy protocol
CZ3.1	Legacy protocol

CZ4.2 CZ4.3	Legacy protocol
CZ4.1	Legacy protocol
NL2.1 NL2.2	Some personal data (EV related) exchanged through this interface
NLx.x Smart meters	Some personal data (metering related) exchanged through this interface
SE3.32	Legacy protocol
SE3.25	Legacy protocol

3. Feedback from demonstrators

The feedback from the demonstrators has been collected through a questionnaire sent to each demonstrator leader throughout October 2018 (except for the French demonstration which was in April 2019).

Identified and faced issues around the interfaces have been classified with the following criteria:

- Interoperability issues
- Cyber-security issues

3.1. Faced interoperability issues and impact

The following table provides feedbacks from interoperability issues identified or faced by the demonstrators.

Interface id	Layer	Source	Initial recommendation	Faced issue?	Solution in demo
CZ2.1	Information	Theoretical, see §2.2.1	Have a unified data model / profile for such interface at EU level	no	Specific data model / profile.
CZ2.x DER connection to grid	Electro-technical	Theoretical, see §2.2.1	Rely on existing DER connection standards (grid codes) - see VDE 4105/4110 in Germany, based on RfG (Network Code requirements for generators, defined by ENTSO-E)	no	Czech grid code is based on NC RfG and EN + CENELEC standards and contains more and less the same functions as VDE 4105/4110.
CZ3.3	Communication & Information	Theoretical, see §2.2.1	Rely on existing control signal protocol such as OCPP for EVSE	no	Ripple control system for sending the command from our SCADA towards the charging stations installations. Other functions of smart charging stations are autonomous. Meaning of ON/OFF signal is determined just by the wiring between ripple control receiver and RTU or the charging stations.
CZ4.3	Communication & Information	Theoretical, see §2.2.1	Rely on existing control signal protocol such as OCPP for EVSE	no	USEF+ (extended USEF).
NL1.4 NL2.4 NL3.2	Communication & Information	Theoretical, see §2.2.1	Define a standard for connection between DSO and aggregator (based on USEF ? Also see T3.1.3)	no	

NL1.1a	Communication & Information	Theoretical, see §2.2.1	Use SUNSpec 800-series as an industry standard	no	Modbus.
DE2	Communication & Information	Theoretical, see §2.2.1	Use simple relay-wire or smart appliances protocols such as SAREF	yes	Solution implemented using relay wires.
DE9	Communication & Information	Theoretical, see §2.2.1	Define a 61850 profile for this? Or rely on USEF? Or new standard TBD?	yes	Solution implemented following the technical guidelines in the Smart Meter Framework.
SE3.32	Communication & Information	Theoretical, see §2.2.1	Rely on a public profile/data model of Modbus, or define a standard? Or rely on SUNSpec?	yes	Based on Modbus with a specific data model for data exchange.
SE3.25	Communication & Information	Theoretical, see §2.2.1	New kind of link with "Energy communities" => new interface to be standardized by EU WG/TF (SGTF?)	yes	OPC, MQTT and vendor specific solutions are applied on the web based part of the communication IEC 61850 could also be applied but seems to be to complicate in practice.
SE3.22	Communication & Information	Theoretical, see §2.2.1	Consider as aggregator and rely on USEF or new standards (see above)	yes	REST communication is mostly vendor specific. SETUP Standards is highly welcomed.
FR3.3	Communication & Information	Theoretical, see §2.2.1	Define a standard for connection between DSO and aggregator (based on USEF? or CIM? also see T3.1.3)	yes	CIM Market standard was chosen.
FR3.5, FR3.7, FR3.8	Communication & Information	Theoretical, see §2.2.1	Use simple relay-wire or smart appliances protocols such as SAREF	yes	Still under investigation. Several standards are used.
FR1.6, FR1.7, FR3.4	Communication & Information	Theoretical, see §2.2.1	Use SUNSpec 800-series as an industry standard	yes	Modbus TCP is used. However, it is still under investigation.

No additional issue (i.e. not previously identified) has been raised by the demo leaders.

3.2. Faced cyber-security issues and impacts

The following table provides feedback from cyber-security issues identified or faced by the demonstrators.

Interface Id	Source	Initial recommendation	Faced issue ?	Solution in demo
CZ1.x Local UI of Smart PV inverter	Theoretical, see §2.2.2	Ensure state-of-the-art authentication and access control for such local UI interface Protect from incorrect values/inputs	no	Advanced grid functions are under service password which customer doesn't know
CZ2.x Local UI of the DER control system	Theoretical, see §2.2.2	Ensure state-of-the-art authentication and access control for such local UI interface Protect from incorrect values/inputs	no	Local user interface is here only for status monitoring (not for defining voltage set points)
CZ2.1 CZ2.2 CZ2.3	Theoretical, see §2.2.2	Ensure state-of-the-art ciphering and authentication	no	Secured communication over VPN
CZ3.2	Theoretical, see §2.2.2	Legacy protocol... risk analysis on the current solution, and evaluation of upgrading	no	Transmitting false signals needs a very big and expensive equipment
CZ3.1	Theoretical, see §2.2.2	Ensure state-of-the-art ciphering and authentication	no	Dedicated fiber optic
CZ4.2 CZ4.3	Theoretical, see §2.2.2	Legacy protocol... risk analysis on the current solution, and evaluation of upgrading	no	Transmitting false signals needs a very big and expensive equipment
CZ4.1	Theoretical, see §2.2.2	Ensure state-of-the-art ciphering and authentication	no	Dedicated fiber optic
NL2.1 NL2.2	Theoretical, see §2.2.2	Open issue to be tackled in light of GDPR and privacy legislation	no	Bowtie risk analysis in progress
NLx.x Smart meters	Theoretical, see §2.2.2	Open issue to be tackled in light of GDPR and privacy legislation	no	No use of smart meter data from individual customers. Just smart meter data from companies. This is tackled by signing an agreement with them for using the data.
All DE interfaces	Feedback from demo	-	yes	On all levels we struggled to satisfy cyber security guidelines for critical infrastructure. In particular, the solution is implemented following the technical guidelines in the Smart

				Meter Framework (Switchbox - SGH via Smart Meter Backbone following BSI recommendations)
SE3.32	Theoretical, see §2.2.2	Ensure state-of-the-art ciphering and authentication	yes	Local connection; access needs to be secured; not a question of protocol; the given protocol is Modbus and not secure.
SE3.25	Theoretical, see §2.2.2	Ensure state-of-the-art ciphering and authentication	yes	Communication protected by VPN with very restricted access. For the future it would be good to have security directly within the protocol.
FR	Feedback from demo	-	no	In agreement with the GDPR and privacy legislation, an agreement has been signed with each customer participating to the demo.

Only two additional issues (i.e. not previously identified) have been raised by the demo leaders.

In addition, a general comment on cyber-security has been provided by the DE demo:

We would like to highlight the challenges that come with integrating new solutions with critical infrastructure. Interfacing between IT and OT does not necessarily prove difficult from an interoperability standpoint, but cybersecurity consideration require sophisticated architecture, including but not limited to

- *Extensive use of firewalls*
- *Decoupling of different segments via demilitarized zones (CITRIX)*
- *Monitored internet access*
- *Closed IP-areas*

4. Synthesis and recommendations

Only few interoperability and cyber-security issues were effectively faced by the demonstrators. The solutions from the demonstrators are in general:

- Interoperability
 - Rely on existing protocols/standards, but extend them if required.
 - Accept proprietary protocols if limited scope.
- Cyber-security
 - Add cyber-security solutions (such as VPN) to secure legacy protocols.
 - Protect the access to the infrastructure/interface (e.g. make it very difficult).

These solutions are acceptable in the scope of a demonstrator, but may show strong limits when generalizing or rolling out a solution at higher scale.

Recommendations and work to be done have been identified by WP3 and are detailed below.

4.1. Interoperability related recommendations

4.1.1. Existing standards and required work for interoperability

Based on the analysis of the interfaces of the demonstrators, such as detailed in [1], the following status has been established:

Interface	Standards or candidates
DSO <-> Aggregator	USEF+, OSCP (EV), Open ADR
DSO <-> Grid	IEC 60870, IEC 61850
Aggregator <-> Aggregator(Multi-Agent)	EFI+, OCPI (EV)
Aggregator <-> Customer (BMS/EMS)	DLMS/COSEM, DNP3, IEC 60870-5, EFI
Aggregator <-> DER	SUNSpec (Inverter), Modbus, IEC 61850, IEC 60870
Inverter <-> Battery management System	Modbus, CanBus, SUNSpec (profile 8xx)
EMS/BMS <-> Smart appliances	ON/OFF wire, Modbus, SAREF, EFI, KNX, IEEE 2030.5 (SEP 2.0)
Aggregator <-> EV charging operator	OSCP, EFI, OCPI (EV), OpenADR
CPO <-> EVSE	OCPP
EVSE <-> EV	IEC 61851, ISO/IEC 15118

Table 1 : List of standards or candidates for smart grid interfaces
(in italic the ones not used in the project)

The following table details the assessment of these standards, from maturity and future-proof perspectives:

- Maturity range:
 - Low: specification is available, not widely accepted, not available on the market, no roll-out
 - Medium: standard, accepted, available on the market, no massive roll-out
 - High: standard, accepted, available on the market, massive roll-out with feedback

- Future-proof range:
 - Low: very simple, few features, could not support smart grid use-cases
 - Medium: smarter, could support smart grid use-cases
 - High: designed for future smart grid systems

This assessment has been established by consulting the experts of AIT, RWTH Aachen and TRIALOG entities working on or using these standards.

Standard or candidate	Maturity	Future-proof	Comments
USEF ¹	Low	High	More a framework than a standard, but several actors are looking at it seriously.
OSCP ²	Low	High	For sharing grid capacity from DSO to a charging spot operator. Specification managed by the Open Charge Alliance.
IEC 60870-5-104	High	Medium	Legacy, no common data mode/profile
IEC 61850	Medium	High	Close to maturity, common profiles are being defined, warning on cyber-security (IEC 62351 is not mature)
ON/OFF Wire	High	Low	Simple and legacy, but not very smart
Modbus ³	High	Medium	Mature but low added value and security issues
EFI ⁴	Low	High	To control smart appliances. Specification managed by the Flexible Power Alliance Network.
SAREF (ETSI TS 103 264)	Low	High	Standard ontology for smart appliances, to be industrialized
OCPP ⁵	Medium	High	Communication between charge point and central system. Specification managed by the Open Charge Alliance.
OCPI ⁶	Low	High	Roaming between CPO and e-mobility services
IEC 61851 Mode 3	High	Medium	Legacy, allows few features for smart charging
ISO/IEC 15118	Medium	High	Designed for smart charging (and V2G in future)
SUNSpec ⁷	High	Medium	Widely accepted by the industry, still evolving for future uses
DNP3 (IEEE 1815)	Medium	Medium	SCADA based but not really implemented
DLMS/COSEM (IEC 62056)	High	High	Focus on energy metering
KNX ⁸	High	Medium	Industry standard for building management
IEEE 2030.5 (SEP 2.0)	Low	High	For consumer participation to demand-response

Table 2 : Maturity and future-proof assessment of standards or candidates

¹ <https://www.usef.energy/>

² <https://www.openchargealliance.org/protocols/oscp-10/>

³ <http://www.modbus.org/>

⁴ <https://flexible-energy.eu/efi/>

⁵ <https://www.openchargealliance.org/protocols/ocpp-16/>

⁶ <https://github.com/ocpi>

⁷ <https://sunspec.org/>

⁸ <https://www.knx.org/>

It appears that:

- No interface is lacking future-proof standards of candidate standards.
- Several interfaces are covered by standards with a good maturity, but generally maturity is lacking.
- Future-proof standards with low or medium maturity will require several years of experimentation and feedback before being considered as industry-ready standards for massive roll-out.

Therefore, a general recommendation would be:

- To rely on standards instead of proprietary protocols to allow interoperability.
- For demonstration purpose, to use future-proof standards, even with low maturity, to implement new use-cases and future business models.
- For massive roll-out, to wait for a good maturity of the standards.

4.1.2. Additional complementary information

In addition to the recommendations detailed above, the following complementary information might be considered:

- Upcoming report on Data Handling from BRIDGE Data Management WG;
- Outcome from SGTF EG1 (“Standards for smart grids (EG1)”);
- Smart grid standards map from IEC⁹.

⁹ <http://smartgridstandardsmap.com/>

4.2. Cyber-security related recommendations

In order to build secured smart grid systems allowing flexibility without weakening the security of the grid, several guidelines have to be followed.

This section presents a recommended approach and applies it to the interfaces of InterFlex demonstrators.

4.2.1. General recommendations on Cyber-security and privacy

General framework principals such as ISO/IEC 29100 can be applied for cyber-security & privacy considerations:

Security protection attributes	Confidentiality	Ensures information is not made available or disclosed to unauthorized individuals, entities or processes.
	Integrity	Ensures the accuracy & completeness of data over its entire life cycle.
	Availability	Ensures accessibility and usability upon demand by an authorized entity.
Privacy protection attributes	Unlinkability	Ensure a user may make multiple uses of resources or services without others being able to link these uses together.
	Transparency	Ensures an adequate level of clarity of the processes in privacy-relevant data processing is reached so the collection, processing and use of the information can be understood and reconstructed at any time.
	Intervenability	Ensures users, data controller, data processors & supervisory authorities can intervene in all privacy-relevant data processing.

A reinforced risk analysis process is used to clearly identify risk sources, breaches and consequences on the system as depicted bellow:

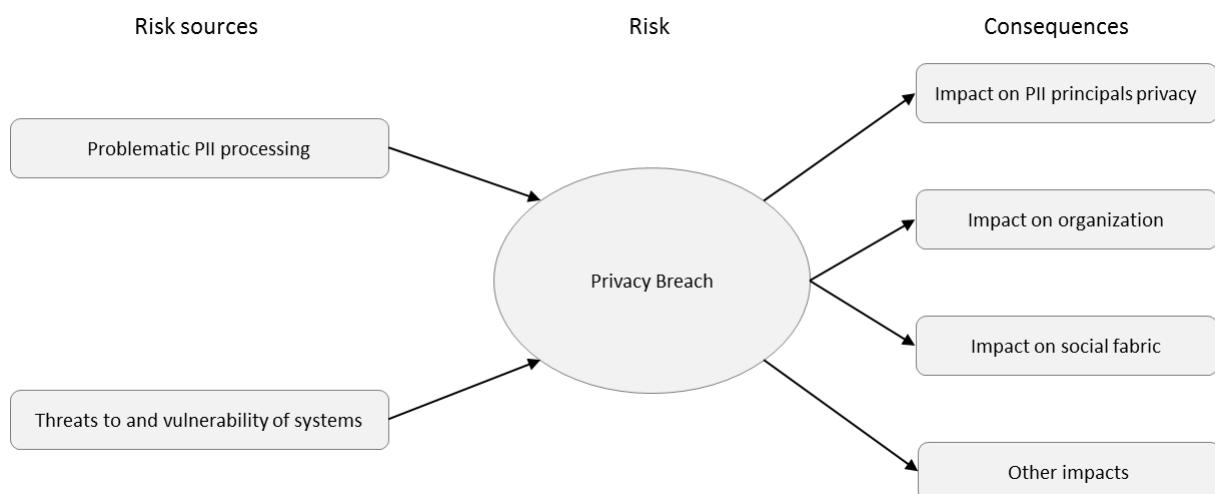


Figure 3: Privacy protection methodology

The used methodology is usually based on the creation of a framework for cyber-security & privacy including for instance as output a Privacy Impact Assessment (PIA) for the privacy.

All these considerations may impact development processes including but not restricted to:

- Agreement processes, such as the acquisition process and/or supply process
- Organisational project-enabling processes, such as the knowledge management process
- Technical management processes, such as the risk management process
- Technical processes, such as the stakeholder needs and requirements process, architecture definition process or design definition process

4.2.2. Cyber-security requirements for smart grid

In document [2], NIST has defined guidelines for smart grid cyber security. In particular, NIST has defined a composite high-level view of the actors within each of the smart grid domains, and listed the possible interfaces, see Figure 2-3 of [2] and below:

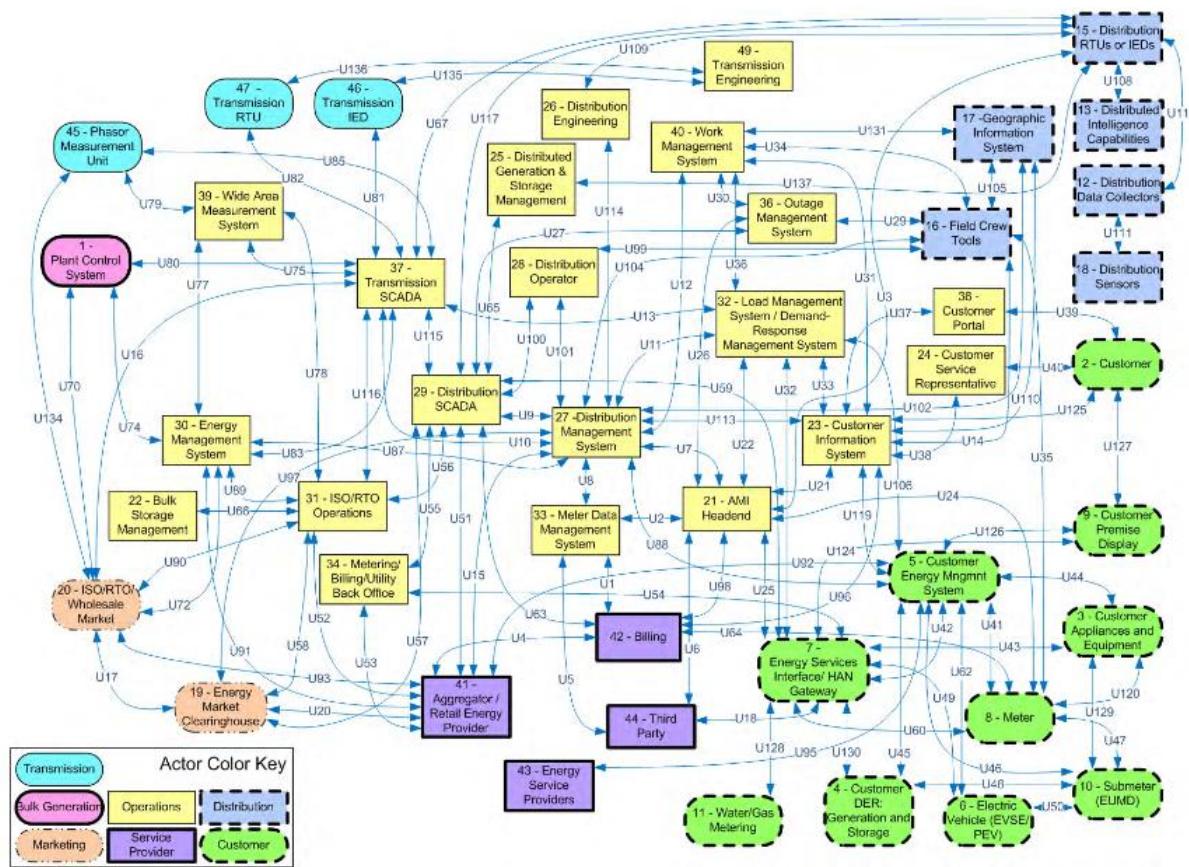


Figure 4: Logical Reference Model from NIST Guidelines for Smart Grid Cyber Security [2]

The interfaces are then included into “Logical Interface Categories” (22 categories in total). For each category, the importance of Confidentiality, Integrity and Availability are defined, from LOW to HIGH.

For each interface, depending on a risk ranking (from LOW to HIGH), three types of requirements are defined:

- Governance, risk, and compliance (GRC) requirements;

- Common technical requirements (CTR);
- Unique technical requirements (UTR).

4.2.3. Cyber-security requirements for InterFlex project

To apply the guidelines defined in [2] to InterFlex project, each of the interfaces of InterFlex demos has been linked to the interfaces defined in [2] (“Uxx”), a risk ranking has been set, and then the associated security requirements have been identified.

The identified requirements are detailed in Annex 1 - Detailed Cyber-security requirements (§5).

4.2.4. Additional complementary information

In addition to the NIST guidelines defined in [2], the following complementary information might be considered:

- Report from Energy Expert Cyber Security Platform (EECSP) on Cyber Security in the Energy Sector [3];
- Outcome from SGTF EG2 (“Regulatory recommendations for privacy, data protection and cyber-security”);
- Upcoming report on Data Handling from BRIDGE Data Management WG.

5. ANNEX 1 - DETAILED CYBER-SECURITY REQUIREMENTS

S.#	Inter-FLEX Interface ID	Demo	Organizational Risk Prioritization			NIST Requirements/Recommendations										
			Impact (H, M, L)			Risk Ranking (H, M, L)	Logical Interface Category	Smart Grid Impact Level (H, M, L)			Requirements Type					
			C	I	A			C	I	A	GRC			CTR	UTR	
1	CZ1.4	CZ	L	H	L	M	M	U64	18	L	H	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none	
2	CZ1.5	CZ	L	H	M	M	M	U109	20	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none	
3	CZ1.6	CZ	L	H	M	M	M	U109	20	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none	
4	CZ1.7	CZ	L	H	M	M	M	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-5	
5	CZ2.1	CZ	L	H	M	M	M	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-5	
6	CZ2.1A	CZ	L	H	M	L	L	U87	6	L	H	M	All Common GRCs	SG.AC-8, SG.AC-9, SG.AC-16, SG.AU-3, SG.AC-4, SG.AU-15, SG.CM-7, SG.CM-8, SG.SA-11, SG.SC-12, SG.SC-15, SG.SC-18, SG.SC-19, SG.SC-20, SG.SC-21, SG.SI-9	SG.IA-16	

7	CZ2.2	CZ	L	H	M	M	M	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-5
8	CZ2.3	CZ	L	H	M	M	M	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-5
9	CZ2.5	CZ	L	M	M	L	L	U111	11	L	M	M	All Common GRCs	SG.AC-8, SG.AC-9, SG.AC-16, SG.AU-3, SG.AC-4, SG.AU-15, SG.CM-7, SG.CM-8, SG.SA-11, SG.SC-12, SG.SC-15, SG.SC-18, SG.SC-19, SG.SC-20, SG.SC-21, SG.SI-9	none
10	CZ3.1	CZ	H	M	L	M	M	U88	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
11	CZ3.2	CZ	H	M	L	M	M	U88	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
12	CZ3.3	CZ	L	M	M	M	M	U62	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
13	CZ3.7	CZ	L	H	M	L	L	U109	20	L	H	M	All Common GRCs	SG.AC-8, SG.AC-9, SG.AC-16, SG.AU-3, SG.AC-4, SG.AU-15, SG.CM-7, SG.CM-8, SG.SA-11, SG.SC-12, SG.SC-15, SG.SC-18, SG.SC-19, SG.SC-20, SG.SC-21, SG.SI-9	SG.IA-6
14	CZ4.1	CZ	H	M	L	M	M	U88	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7

15	CZ4.2	CZ	H	M	L	M	M	U88	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
16	CZ4.3	CZ	H	M	L	M	M	U88	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
17	CZ4.6	CZ	L	H	M	L	L	U109	20	L	H	M	All Common GRCs	SG.AC-8, SG.AC-9, SG.AC-16, SG.AU-3, SG.AC-4, SG.AU-15, SG.CM-7, SG.CM-8, SG.SA-11, SG.SC-12, SG.SC-15, SG.SC-18, SG.SC-19, SG.SC-20, SG.SC-21, SG.SI-9	SG.IA-6
18	CZ4.8	CZ	L	H	L	M	M	U64	18	L	H	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
19	DE1.10	DE	L	H	H	M	H	U65	5	L	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
20	DE1.11	DE	L	H	M	M	H	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
21	DE1.12	DE	H	M	L	M	H	U110	7	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-12, SG.IA-6, SG.SC-26
22	DE1.13	DE	H	M	L	M	H	U55	8	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-12, SG.IA-6, SG.SC-26

23	DE1.3	DE	L	M	M	M	H	U112	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
24	DE1.4	DE	L	H	L	M	H	U60	18	L	H	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
25	DE1.5	DE	L	M	M	M	H	U42	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
26	DE1.6	DE	L	H	M	M	H	U59	10	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7, SG.IA-4
27	DE1.7	DE	L	H	M	M	H	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
28	DE1.8	DE	L	H	M	M	H	U59	10	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7, SG.IA-4
29	DE1.9	DE	H	H	H	M	H	U32	14	H	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.IA-6, SG.SC-3, SG.SC-5, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-9, SG.IA-26, SG.IA-29, SG.SI-7
30	DE2.10	DE	L	H	H	M	H	U65	5	L	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7

31	DE2.11	DE	L	H	M	M	H	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
32	DE2.12	DE	H	M	L	M	H	U110	7	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-12, SG.IA-6, SG.SC-26
33	DE2.13	DE	H	M	L	M	H	U55	8	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-12, SG.IA-6, SG.SC-26
34	DE2.3	DE	L	M	M	M	H	U112	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
35	DE2.4	DE	L	H	L	M	H	U60	18	L	H	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
36	DE2.5	DE	L	M	M	M	H	U42	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
37	DE2.6	DE	L	H	M	M	H	U59	10	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7, SG.IA-4
38	DE2.7	DE	L	H	M	M	H	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7

39	DE2.8	DE	L	H	M	M	H	U59	10	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7, SG.IA-4
40	DE2.9	DE	H	H	H	M	H	U32	14	H	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.IA-6, SG.SC-3, SG.SC-5, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-9, SG.IA-26, SG.IA-29, SG.SI-7
41	DE3.10	DE	L	H	H	M	H	U65	5	L	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
42	DE3.11	DE	L	H	M	M	H	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
43	DE3.12	DE	H	M	L	M	H	U110	7	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-12, SG.IA-6, SG.SC-26
44	DE3.13	DE	H	M	L	M	H	U55	8	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-12, SG.IA-6, SG.SC-26
45	DE3.3	DE	L	M	M	M	H	U112	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
46	DE3.4	DE	L	H	L	M	H	U60	18	L	H	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7

47	DE3.5	DE	L	M	M	M	H	U42	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
48	DE3.6	DE	L	H	M	M	H	U59	10	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7, SG.IA-4
49	DE3.7	DE	L	H	M	M	H	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
50	DE3.8	DE	L	H	M	M	H	U59	10	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7, SG.IA-4
51	DE3.9	DE	H	H	H	M	H	U32	14	H	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.IA-6, SG.SC-3, SG.SC-5, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-9, SG.IA-26, SG.IA-29, SG.SI-7
52	NL1.1	NL	L	M	M	M	M	U93	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
53	NL1.10	NL	L	M	M	H	H	U111	11	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
54	NL1.2	NL	L	H	M	M	M	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-5

55	NL1.3	NL	L	H	H	H	H	U9	5	L	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
56	NL1.3	NL	H	M	L	M	M	U92	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
57	NL1.5	NL	L	H	H	H	H	U9	5	L	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
58	NL1.6	NL	L	M	M	H	H	U97	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
59	NL1.7	NL	L	H	M	H	H	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
60	NL1.8	NL	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
61	NL1.9	NL	L	M	M	M	M	U111	11	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-8
62	NL2.1	NL	L	M	M	L	L	U62	15	L	M	M	All Common GRCs	SG.AC-8, SG.AC-9, SG.AC-16, SG.AU-3, SG.AC-4, SG.AU-15, SG.CM-7, SG.CM-8, SG.SA-11, SG.SC-12, SG.SC-15, SG.SC-18, SG.SC-19, SG.SC-20, SG.SC-21, SG.SI-9	SG.IA-6

63	NL2.2	NL	L	M	M	M	M	U93	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
64	NL2.3	NL	L	H	M	M	M	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-5
65	NL2.4	NL	L	H	H	H	H	U9	5	L	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
66	NL2.5	NL	L	H	H	H	H	U9	5	L	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
67	NL2.6	NL	L	M	M	H	H	U97	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
68	NL2.7	NL	L	H	M	H	H	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
69	NL2.8	NL	L	M	M	H	H	U111	11	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
70	NL2.9	NL	L	M	M	M	M	U111	11	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-8

71	NL3.1	NL	L	M	M	M	M	U93	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
72	NL3.2	NL	L	M	M	H	H	U97	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
73	NL3.3	NL	L	H	H	H	H	U9	5	L	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
74	NL3.4	NL	L	H	H	H	H	U9	5	L	H	H	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-6, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
75	SE1.10	SE	L	M	M	H	H	U20	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
76	SE1.3	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
77	SE1.4	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
78	SE1.6	SE	L	M	M	M	M	U44	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7

79	SE1.7	SE	H	M	L	M	M	U92	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
80	SE1.8	SE	L	H	M	M	M	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-5
81	SE2.2	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
82	SE2.5	SE	L	M	M	H	H	U20	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
83	SE3.1	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
84	SE3.10	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
85	SE3.12	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7
86	SE3.13	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7

87	SE3.14	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7
88	SE3.15	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7
89	SE3.16	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7
90	SE3.17	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7
91	SE3.18	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7
92	SE3.19	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7
93	SE3.2	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
94	SE3.20	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7

95	SE3.21	SE	L	M	M	M	M	U108	12	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-5, SG.SC-5, SG.SC-7, SG.SI-7
96	SE3.24	SE	H	M	L	M	M	U15	8	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
97	SE3.25	SE	H	M	L	M	M	U15	8	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
98	SE3.26	SE	L	M	M	H	H	U93	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
99	SE3.27	SE	L	H	M	M	M	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-5
100	SE3.3	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
101	SE3.31	SE	L	H	M	H	H	U56	6	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
102	SE3.32	SE	L	H	M	M	M	U117	4	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.SC-5

103	SE3.4	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
104	SE3.5	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
105	SE3.6	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
106	SE3.7	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
107	SE3.8	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
108	SE3.9	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
109	SE4.2	SE	H	M	L	M	M	U92	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
110	SE4.3	SE	L	M	M	H	H	U20	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none

111	SE4.4	SE	L	M	M	H	H	U17	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
112	SE5.1	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
113	SE5.2	SE	L	M	M	M	M	U45	15	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.IA-4, SG.SC-3, SG.SC-5, SG.SC-7, SG.SC-8, SG.SI-7
114	SE5.3	SE	H	M	L	M	M	U92	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AU-16, SG.IA-4, SG.SC-3, SG.SC-7, SG.SC-8, SG.SI-7
115	SE5.5	SE	L	M	M	M	H	U20	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none
116	FR1.2	FR	L	H	M	M	H	U109	20	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AC-15, SG.AC-16, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
117	FR1.4a	FR	L	H	M	M	H	U109	20	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AC-15, SG.AC-16, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
118	FR1.4b	FR	L	H	M	M	H	U109	20	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AC-15, SG.AC-16, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7

119	FR1.5	FR	L	H	M	M	H	U109	20	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AC-15, SG.AC-16, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
120	FR3.1	FR	H	M	L	H	H	U2	16	H	M	L	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.IA-6, SG.SC-9, SG.SC-26
121	FR3.2	FR	L	H	M	M	H	U109	20	L	H	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	SG.AC-14, SG.AC-15, SG.AC-16, SG.IA-4, SG.IA-5, SG.SC-3, SG.SC-7, SG.SC-8, SG.SC-29, SG.SI-7
122	FR3.3	FR	L	M	M	H	H	U93	9	L	M	M	All Common GRCs + SG.CM-3, SG.CM-5, SG.CP-5, SG.MP-3, SG.SI-6, SG.AC-18*, SG.AU-5*, SG.AU-8*, SG.CP-7*, SG.CP-8*, SG.CP-9*, SG.CP-10*, SG.IR-10*, SG.MA-3*, SG.MA-6*, SG.PE-3*, SG.PE-5*, SG.PE-9*, SG.PE-12*, SG.RA-6*	SG.AC-6, SG.AC-7, SG.AC-17*, SG.SC-11*, SG.SC-16, SG.SC-22, SG.AC-30, SG.SI-8	none

All Common GRC	SG.AC-1, SG.AC-2, SG.AC-3, SG.AC-4, SG.AC-19, SG.AC-20, SG.AT-1, SG.AT-2, SG.AT-3, SG.AT-4, SG.AT-6, SG.AT-7, SG.AU-1, SG.AU-6, SG.AU-9, SG.AU-10, SG.AU-11, SG.AU-12, SG.AU-13, SG.AU-14, SG.CA-1, SG.CA-2, SG.CA-3, SG.CA-4, SG.CA-5, SG.CA-6, SG.CM-1, SG.CM-2, SG.CM-4, SG.CM-6, SG.CM-9, SG.CM-10, SG.CM-11, SG.CP-1, SG.CP-2, SG.CP-2, SG.CP-3, SG.CP-4, SG.CP-6, SG.CP-11, SG.IA-1, SG.IA-2, SG.IA-3, SG.ID-1, SG.ID-2, SG.ID-3, SG.ID-4, SG.IR-1, SG.IR-2, SG.IR-3, SG.IR-4, SG.IR-5, SG.IR-6, SG.IR-7, SG.IR-8, SG.IR-9, SG.IR-11, SG.MA-1, SG.MA-2, SG.MA-4, SG.MA-5, SG.MA-7, SG.MP-1, SG.MP-2, SG.MP-4, SG.MP-5, SG.PE-1, SG.PE-2, SG.PE-4, SG.PE-6, SG.PE-7, SG.PE-8, SG.PE-10, SG.PE-11, SG.PL-1, SG.PL-2, SG.PL-3, SG.PL-4, SG.PL-5, SG.PM-1, SG.PM-2, SG.PM-3, SG.PM-4, SG.PM-5, SG.PM-6, SG.PM-7, SG.PM-8, SG.PS-1, SG.PS-2, SG.PS-3, SG.PS-4, SG.PS-5, SG.PS-6, SG.PS-7, SG.PS-8, SG.PS-9, SG.RA-1, SG.RA-2, SG.RA-3, SG.RA-4, SG.RA-5, SG.SA-1, SG.SA-2, SG.SA-3, SG.SA-4, SG.SA-5, SG.SA-6, SG.SA-7, SG.SA-8, SG.SA-9, SG.SC-1, SG.SC-13, SG.SI-1, SG.SI-2, SG.SI-3, SG.SI-4, SG.SI-5, (SG.AC-18, SG.AU-5, SG.AU-8, SG.CP-7, SG.CP-8, SG.CP-9, SG.CP-10, SG.IR-10, SG.MA-3, SG.MA-6, SG.PE-3, SG.PE-5, SG.PE-9, SG.PE-12, SG.RA-6)
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