



GCF™

Global Certification Forum

Welcome, Agenda and Introduction to GCF

GCF 5G MENA Workshop

Lars Nielsen, GCF General Manager

November 28, 2018 Gloria Hotel Dubai

Agenda Morning

Time	Topic	Presenter	Role	Company
08:30-08:55	<i>Registration, coffee and welcome</i>			
09:00	Opening speech	Saleem Alblooshi	Chief Infrastructure Officer	EITC (du)
09:10	Welcome, agenda overview and Introduction to GCF	Lars Nielsen	General Manager	GCF
09:20	5G Commercial realization: from standards to deployment	Chris Hogg	5G Lead	GCF
09:30	Key Factors in making 5G a success	Jawad Abbassi	Head of MENA	GSMA
09:50	A Realistic View at the deployment and use cases of 5G	Dr. Mahmoud R Sherif	VP Infrastructure Strategy & Architecture	EITC (du)
10:10	5G Opportunities and Challenges in MENA Region	Dr. Abdul-Hadi Abou Almal	Director Technology and Standardisation	Etisalat
10:30-10:45	<i>Networking coffee break</i>			
10:45	Vodafone 5G insights	Ignacio Gonzalez	Senior Expert	Vodafone
11:10	5G New Radio: Motivation, Design, Deployment Options & Challenges	Mohamed El Saidny	Senior Regional Account Manager, EMEA and India	Mediatek
11:35	Network Slicing: Building Next Generation Networks	Abdesattar Sassi	CTO, UAE	ZTE
12:00	Veridos_5G_MobileFirst_Strategy	Anas Mostafa	Regional Director	Veridos
12:25	5G - More than a wireless upgrade	Mark Gilmour	Senior Advisor Product Line Management	Ciena
12:50	Turn on 5G	Ammar Ammar	Head of Networks Campaigns in Middle East and Africa	Ericsson
13:15-14:10	<i>Lunch</i>			

Agenda Afternoon

13:15-14:10	Lunch			
14:15	5G Network Evolution: Radio goes to the Cloud, and Core goes alone...	Aji Ed	CTO, Middle East and Africa	Nokia
14:40	5G NR Network Deployment is now	Shakil Ahmed & Jibrán Siddiqui	Regional Director Mobile Network Testing Technology & Application Engineer Mobile Network Testing	Rohde & Schwarz
15:05	Building the future with 5G now	Dr. Mohamed Madkour	VP Global Wireless Networks Marketing and Solutions	Huawei
15.30-15:50	Networking coffee break			
15:50	Lesson learned from Luxembourg 5G strategy including LIFI technology	Marc Fleschen	CEO Zero1 LIFI	Zero1
16:15	5G NR Device Testing	Rafa Garcia	Telecommunications Industry expert	Keysight
16:40	5G Update & MM-Wave RF/Signalling Challenges	Vikas Chauhan	Business Development Manager	Anritsu
17:00	Wrap-up and The Way Forward	Lars Nielsen	General Manager	GCF
17:30	Close of Meeting			

Global Certification Forum (GCF) - who are we?



- **The mobile industry's 3GPP device certification scheme**

- 300+ members from across the globe and growing
 - 29 new members in 2018
- Major brands participate (Operators, Device Manufacturers and Test Industry)
 - Du and Etisalat are members
- > 500 products certified per year
 - 2018 will have a record number of certified devices driving by NB-IOT and Cat M1 IoT Modules
- **A GCF certified product has an assured level of interoperability**

Industry Partners



A simple Certification process...



Conformance



Interoperability



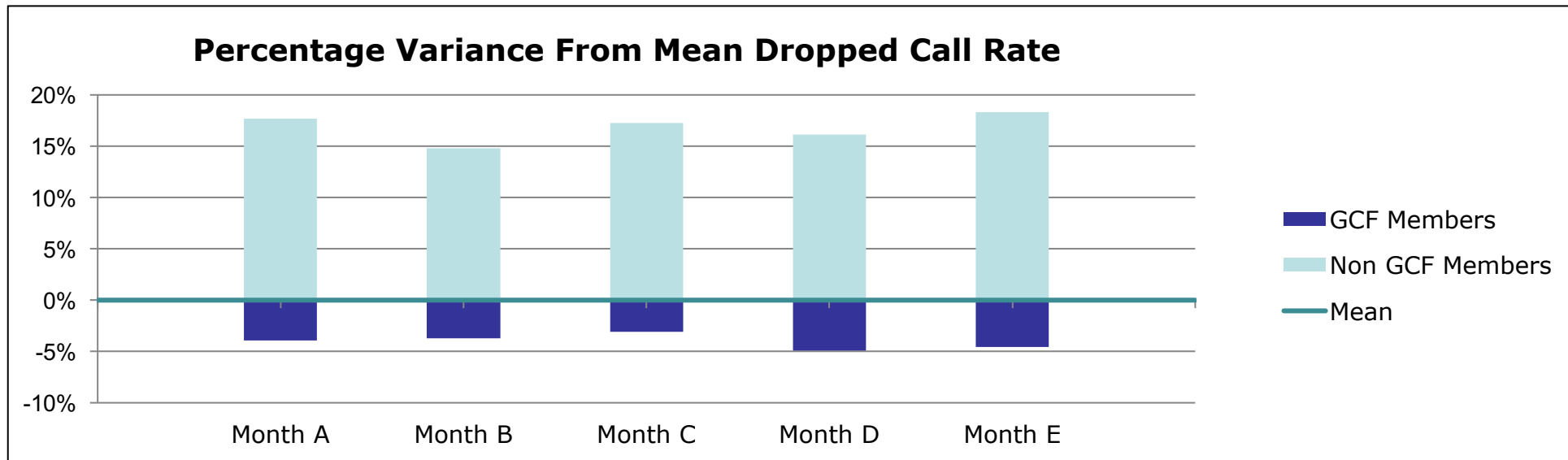
Field Trials

Mobile market challenges

- 
- It is essential that products and services work
 - Support competition (anyone can join GCF)
 - Business beyond smartphones + content

Why GCF? *Good interoperability = better for business*

- GCF and operators have investigated the impact of certified devices in networks
 - Orange, Airtel, Telefonica
 - On average GCF members' products have 20% fewer call drops



GCF certified products interoperate significantly better on networks.

GCF's Certification scope

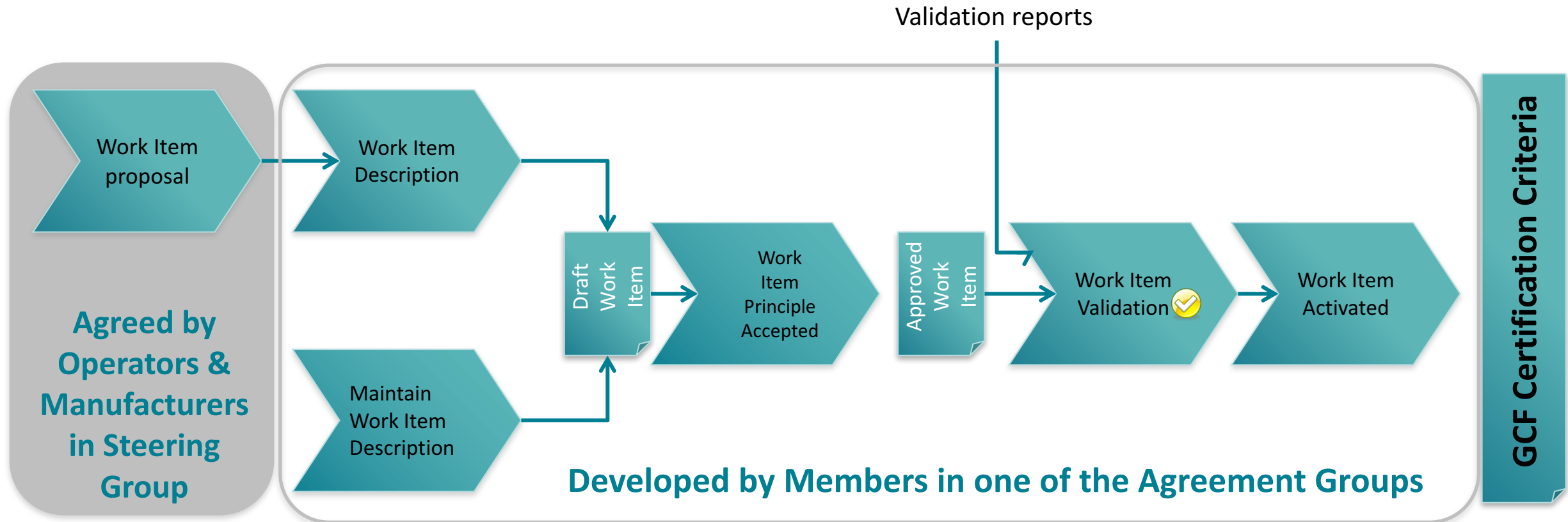


Services and Applications

Radio Technologies
(2G, 3G, 4G, 5G)

Related Tech.
(e.g. NFC, SIM,
eSIM/RSP etc)

Defining the Certification Criteria



Work Items must be based on requirements from SDOs

GCF Certification Flow

Assessment Capable Entity (ACE)

Recognised Test Organisation (RTO)

Device Certification Manager (DCM)

Mobile device assessed against all applicable GCF certification criteria - based on supported functionality & type of device -



When **GCF Compliance folder** contains: evidence of compliance to all applicable GCF requirements

Device is GCF-certified

Certified devices listed on GCF website
Additional detail available to GCF operator members



Conformance testing (Based upon standards & validated test cases/platforms)



Interoperability testing



Field trials (GSMA TS.11)

Addressing Interpretations of Core Requirements

- Core standards is open to interpretations which may result in non-compliant devices
 1. Provide dedicated test specification(s)
 2. Eliminate prose in test specifications by providing TTCN
 3. Verify and validate TTCN & test equipment against a number of reference implementations
- ETSI TF160 is providing the 5G TTCN for 3GPP
 - Availability of validated test cases for device certification is driven by the availability of test cases in TTCN
 - GCF is funding development 5G TTCN in 2018 and 2019

Device Certification Criteria (DCC)

- GCF's Device Certification Criteria (DCC) database is industry leading.
- DCC has successfully managed increasing complexity from 2G through to 5G.
 - 1200 Work Items.
 - 9000+ test cases.
 - Live validation status of all major Test Platforms.
- Significant continued investments
 - DCC database capacity and capabilities
 - GCF's online certification database.

Welcome to DCC Version 2.0.5.6

All information obtained via participation in GCF is Confidential Information with the restrictions given in GCF-CI section 4.

The Global Certification Forum (GCF) Device Certification Criteria (DCC) enables GCF members to access all the technical Certification Criteria (GCF-CC) required for device Conformance Testing in real time. DCC comprises a series of modules:

Test Platform (TP) Explorer: This lists all the TPs that are used in GCF for testing devices against GCF-CC. Each TP may have many Configurations and Versions and this information is also available.

Test Case (TC) Explorer: This lists all the TCs from the Technical Specifications used by GCF for certification purposes.

Work Item (WI) Explorer: The continual introduction of new releases, features and bands by the Standards Organisations means that there is a large number of TCs needed for GCF-CC. The TCs are managed in WIs which are packages of TCs representing some release, band or feature and each WI will remain stable during the period between CAG meetings.

Meetings: Every 3 months the CAG holds a meeting the primary purpose of which is to agree the contents of GCF-CC for the coming period. This mainly involves approving new WIs, changes to WIs and approval of validation Change Requests when it is the first time a TC is being submitted for approval on a TP.

Change Requests (CR): In addition to the WI and validation Meeting CRs mentioned for meetings, there is the possibility of making changes to the validation status of a TC in between CAG meetings using a 5 Day CR. These appear in the CR module and are approved by default after 5 working days unless challenged by any GCF user.

Certification Criteria (GCF-CC): This provides online and downloadable versions of GCF-CC. The latest, active versions of GCF-CC are updated on a daily basis according to approved 5 Day CRs and show the latest validations on Test Platforms for the Test Cases included in the GCF-CC versions.

Help: There is an online, context-sensitive Help Guide covering the functionality of all of the above modules in detail. Please feel free to use this for further information. If you experience any problems with DCC please contact support@globalcertificationforum.org.

Useful Links: This section provides some convenient links to the most commonly used material related to DCC.

In addition to Conformance Testing, GCF defines interoperability (IOP) Testing and Field Trial (FT) Testing. DCC does contain some information about these testing regimes but not to the same level of detail that is used for Conformance Testing:

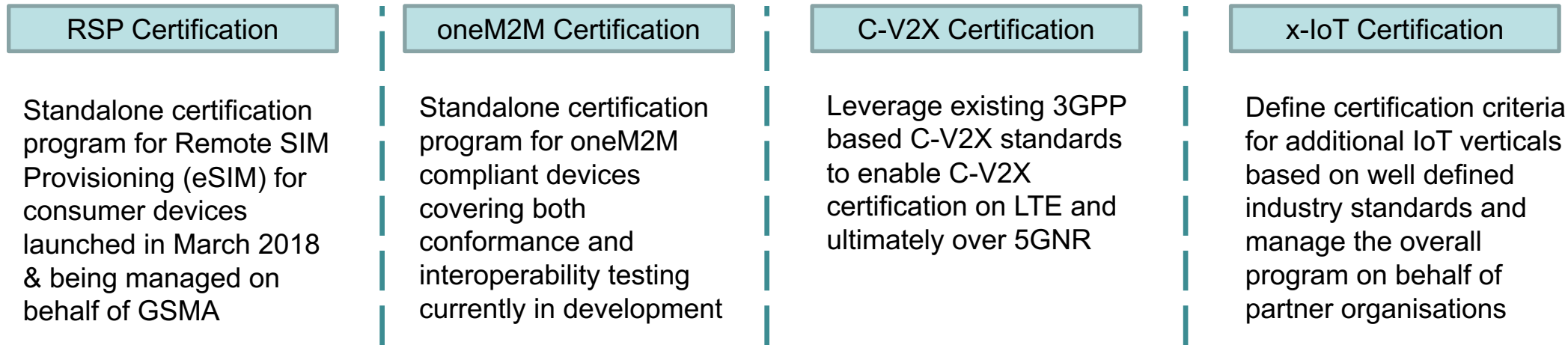
IOP: The IOP Work Items are stored in the same WI Explorer as the Conformance WIs, for reference purposes only. The WIs contain the details of the TCs to be performed for IOP but the TCs themselves are not stored in DCC as they are not subjected to the same procedures (e.g. no TPs needed, no CRs).

FT: The FT Work Items are also stored in DCC for reference purposes but again, the TCs are not subjected to the same procedures as Conformance tests and are not stored in DCC. The current FT TCs can be found in GCF-CC Annexes F.5.1 and F.5.2, available from the "PRDs" link in the Official Documents section of this website.

Link	Description
FTAG WIDs	Field Trial Agreement Group (FTAG) Work Item Descriptions (WIDs).
Latest version of CC	Excel version of most recent main version of CC (Certification Criteria), created immediately after the closure of the last CAG meeting.
Meeting Summary for CAG#55.1 meeting	A summary of the treatment of all the meeting Change Requests (CRs) showing which CRs were approved and implemented, partially implemented, rejected or revised.
TC Category changes for CAG#55.1 meeting	A summary of the Category changes made for each affected TC when the most recent version of CC was created at the end of the last CAG meeting.
List of Test Platforms	A list of all the Test Platforms used by DCC, including details of the Configuration Versions and the related Work Item Status.
List of approved Test Platforms for each Work Item	Overview of the approved and non-approved Test Platforms for each Band within each GCF Work Item (WI). The list uses the Test Platform Approval Criteria (TPAC). For details of how TPAC is handled see the Permanent Reference Document (PRD) called GCF-OP which can be obtained here.
Work Item Summary Report	A report of the current status of all Work Items (WI) showing the TCEC counting and the total number of included test cases per WI. The status after the previous 3 CAG meetings is also shown.
Definitions	Some key definitions from the Permanent Reference Document GCF-AD, relevant to DCC.
Template file for bulk upload ADDITION	This file is to be used only for the ADDITION of completely new test cases into DCC and is to be used when a new Work Item (WI) has been created. The file will then be used by the GCF Office (using the bulk upload process) to generate a Meeting CR. The file contains the template to be used together with guidance on how to use it. Please ensure that you follow the data formats defined exactly to avoid delay.
Template file for bulk upload DELETION	This file is to be used only for the DELETION of existing test cases from existing Work Items in DCC. The file will then be used by the GCF Office (using the bulk upload process) to generate a Meeting CR. The file contains the template to be used together with guidance on how to use it. Please ensure that you follow the data formats defined exactly to avoid delay.
Template file for CR import	This Excel file is the template to be used when you wish to submit a Validation Change Request using the Change Request > New > Generate CR with import file menu option. The purpose is to save time during the CR creation process and to generate an Excel Validation Report automatically and full details of how it should be used can be found in the Help guide.
3GPP TCL	This document contains the GCF selected and prioritised 3GPP test cases in a list to be provided to external organisations such as 3GPP RAN5 and PTCRB/PVG.
WIASR	Work Item Activation Status Report (WIASR).

GCF is ready for 5G!

Enabling certification for IoT verticals



GCF IT abstraction layer

GCF certification engine

DCC
database

Member
portal

Public
portal

Certification
criteria

Technology
standards

Agreement
groups

IoT Summary

- Massive IoT is a phenomenon that is already underway
 - GCF to launch dedicated public website for GCF certified IoT modules
- GCF is fully prepared to handle the certification of these unique device types in a cost effective manner
- Participation from Industry and the GCF Membership will be key in identifying and prioritizing IoT Verticals that will require certification



Where to find us...

gcf@globalcertificationforum.org

www.globalcertificationforum.org



<https://www.linkedin.com/company/global-certification-forum-gcf-ltd/>



[@GCF_Certified](https://twitter.com/GCF_Certified)

Lars.Nielsen@globalcertificationforum.org