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# What NTBs and MRA mean to ICT Industry?

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# Self-Introduction

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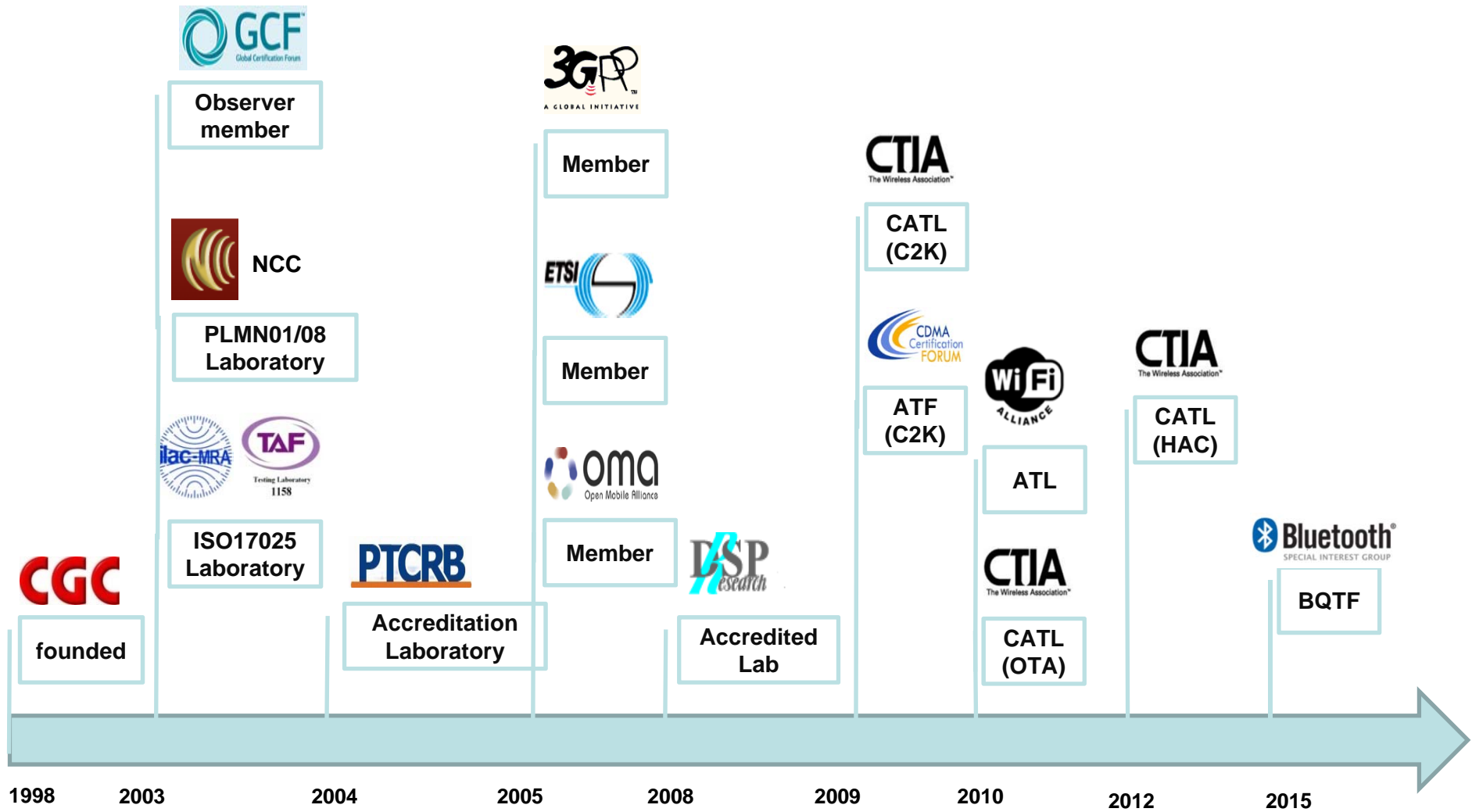
- Name: Chen, Hern-Chung; Herman
- Title: Vice President
- Company: HTC



- (CGC President since 2004)
- In 2007, HTC **acquired** CGC since they need a company-owned laboratory to carry out all kinds of conformance testing with the requirement requested by the customers, mainly from the Telecom Operators, over the world.



# History



# Organizations

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# CGC

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- ISO17025 Accredited lab
- Testing capability covers
  - RF, RRM and Protocol testing in GSM/GPRS/W-CDMA/FDD-LTE/TD-LTE technologies
  - Bluetooth RF and Profile testing
  - OTA/SAR testing
  - MMS testing
  - A-GPS/Galileo/Glonass testing
  - Others



# Analysis

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- Low labor fee with high quality will no longer exist in Taiwan.
  - Replaced by other countries in the Asia Pacific
  - Industrial status: transfer to domestic needs instead of exporting (?)
    - ➔ export barrier is getting higher due to high importing tax
- Labor fee strongly determines the quality of its produced products.
- What is and what will be 'features' in Taiwan?
  - A-team (see the next page)
- Differentiation among countries is getting lower
  - Now, many countries approaches to sign FTA to reduce tax

# Value Chained Enterprise



Chipset



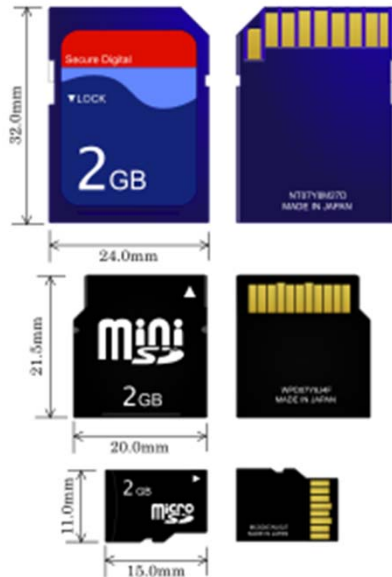
Touch panel



Battery



MIC & SPK



Memory & card



Antenna



# SME Distribution in Taiwan

	Total	SME	Rate (%)
<b>Total</b>	1,363,393	1,331,182	97.64
<b>Farmer, fishman</b>	12,088	12,027	99.50
<b>Mine</b>	1,192	1,166	97.82
<b>Manufacturing</b>	144,760	139,099	96.09
<b>Power, Gas</b>	553	423	76.49
<b>Water supplier &amp; pollution</b>	7,506	7,211	96.07
<b>Construction</b>	108,779	107,498	98.82
<b>Whole sale</b>	683,983	666,857	97.50
<b>Transportation</b>	31,345	30,283	96.61
<b>Hotel &amp; restaurant</b>	131,083	130,653	99.67
<b>ICT</b>	18,521	17,794	96.07
<b>Banking</b>	17,381	14,947	86.00
<b>Estate</b>	31,499	29,986	95.20
<b>Science &amp; Technical service</b>	41,881	41,167	98.30
<b>Supporting service</b>	29,039	28,607	98.51
<b>Educational service</b>	1,630	1,622	99.51
<b>Medical</b>	616	604	98.05
<b>Art &amp; entertainment</b>	23,899	23,791	99.55
<b>Others</b>	77,638	77,447	99.75



# Telecomm Industries

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- Telecomm Liberalization
  - Regulatory testing becomes a small part of testing and,
  - Testing fee (re-test) has not become a barrier to other countries
  - Many **EMC-like labs** exist in Taiwan → extending to cover CAB
- Testing and certification business → globalization (Conformance Testing as an example)
  - BV acquired ADT (France)
  - AT4 (Spain)
  - SGS (Swiss)
  - Sporton (cooperate with RFI) (UK)
  - Intertek (USA)
  - CGC (100% owned by Taiwan people)
  
  - Closed: ETS, CCS, ETC (TUV-PS)

# PTCRB Accredited/EMC Lab

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	Total	Total (HQ only)
No. of Lab WW	48	31

	China	USA	Korea	Taiwan	Germany	Others
No. of Lab	12	10	9	6	2	9
%	25%	21%	19%	13%	4%	19%

EMC Lab in Taiwan	45
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# HTC Situation

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- One of important Mobile device manufacturers
- Their business influences Taiwan's GDP much
- Around 150 models/year
- Almost 10K employees
- R&D in Taiwan (small part in China)
- Offices are over all countries
- Their business is gradually recovered



# CGC Business

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- 100% focuses on the voluntary conformity testing.
- ~ 175 projects/year
- ISO17025 accreditation through TAF
- Accepted by GCF, CTIA and PTCRB

# IPR Issues

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- Protecting innovation
- Too many unfair lawsuits happened in the developing countries

# Laboratory

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- ISO17025 is a key accreditation to a lab..
- Through ILAC, the accreditation obtained from TAF is accepted by many other countries.
- We can then enter EU market (GCF) and NA market (PTCRB). But, a basic condition is that those market segments shall realize their 'telecom liberalization'.
- The benefit to have local labs has,
  - Shorten time to market
  - Information and need for the targeted markets can be quickly obtained and kept updating
  - Save money

# Testing Matters

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- As a CAB, we can save money and time to update or renewal our new feature(s) accreditation. In average, we will have 4-5 times accreditation applications in a year.
- Each year, HTC has around 150 projects or more which need GCF or/and PTCRB test reports.
- With the reports, HTC can then enter every part of world.
- Up to now, we don't see any problem from HTC of using our reports with the logo of 'TAF' to their customers.

# CE & R&TTE – Asia

Region	CE (CB) / R&TTE Requirement (Y/N)	EN50332/Acoustic Requirement (Y/N)
North Asia: • Taiwan	N	N
North Asia: • HK, Vietnam South Asia: • Singapore, Indonesia, Malaysia, India Thailand, Philippine, Australia, New Zealand	Y (R&TTE, CE)	Y
Japan (Customer requests CE): • KDDI, Softbank, DoCoMo	Y (CE)	Y
China	N	N
Korea	N.	N



# Market Status

Country /Item	Malaysia	Singapore	Korea	Japan	Thailand	India
Windows	SIRIM	PSB		CAB		
testing outside country	"Accept"	No		Accept	No	No
SAR	Y	Y		Y	Y	Y
Safety	Y	Safety Mark		Y	No	Y
EMC	Y	N		Y	Y	x
RF in 3GPP	Y	N		Y	No	No
Factory audit	Y (SLP)	N		?	?	No

SLP: self-labelling program – starts from Jan. 2015 through MCMC

<http://www.youtube.com/embed/kGM-2N-WKsQ?autoplay=1>

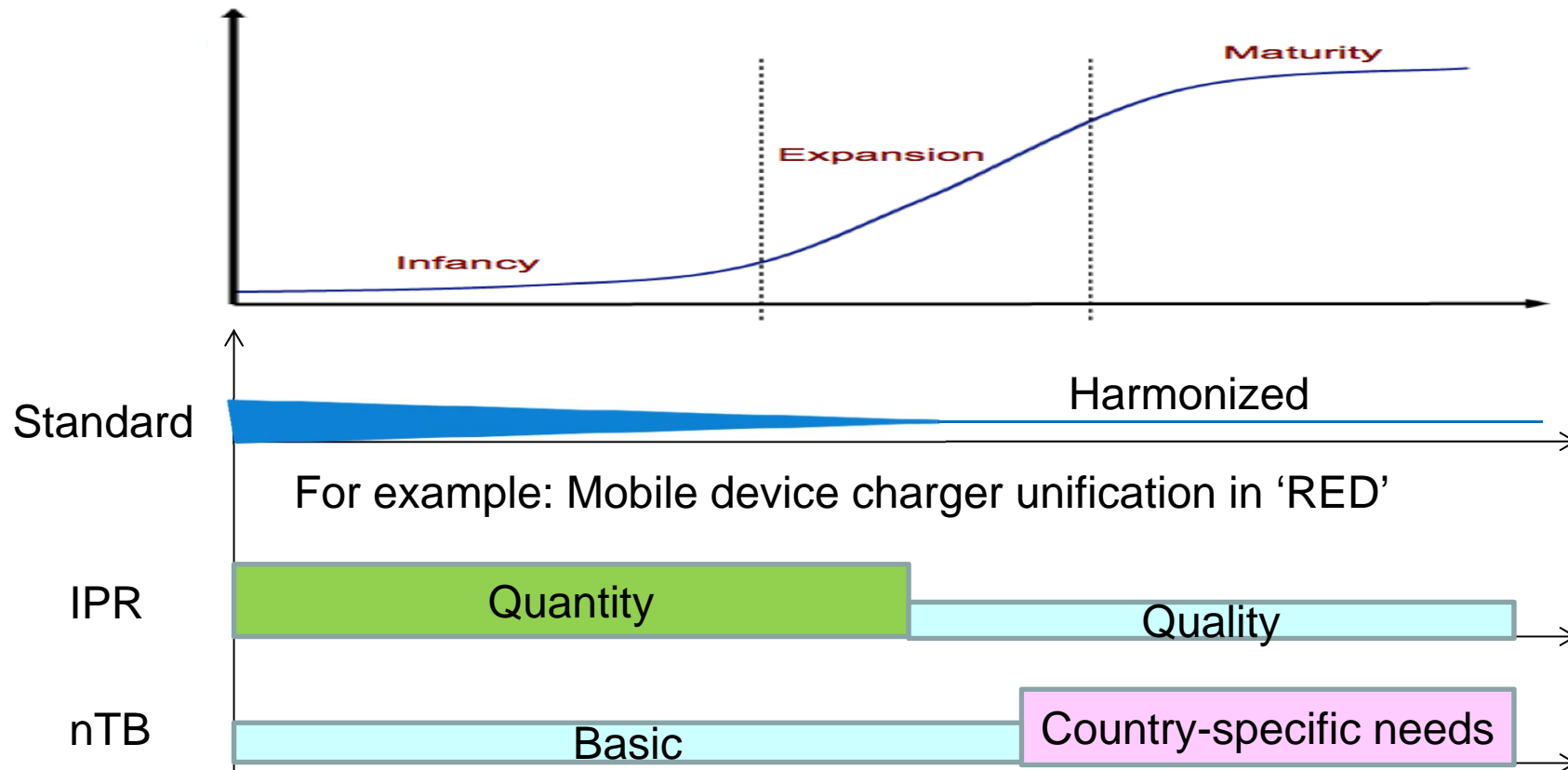
# LTA Lead-Time & Cost

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- Lead-time
  - Singapore: 15 days
  - Malaysia: 30 days
  - Thailand: 20 days
  - **Indonesia: 60 days**
  
- Cost for the certificate
  - Singapore: 100 USD
  - Malaysia: 4000 USD
  - Thailand: 150 USD
  - **Indonesia: 4500 USD**

LTA : Local Type Approval

# nTB vs S-Curve in ICT



nTB: regulatory vs voluntary requirement (r. r. vs v. r.)  
•r.r.: Safety, SAR, OTA and factory survey; BIS in India;  
•v.r.: 3GPP/3GPP2, GSMA, OMA, .....

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Thank you very much