KEYSIGHT WORLD 2020

Access Advanced Technologies with Innovative Approach

Greater China Enterprise Agreement Sales Director / Keysight Technologies

Tony Chen

About Tony Chen

Tony started his career in Keysight as an application engineer in test measurement business group in HP Taiwan in 1993. Through 27+ service years in HP, Agilent and Keysight, Tony has contributed himself in various positions including application engineering manager, Asia consulting sales manager, Taiwan EEsof EDA sales manager, Greater China EEsof EDA application engineering manager, and most recently Greater China Enterprise Sales Director.

Keysight Across Your Development Ecosystem

TEST INSTRUMENTS AND SOFTWARE

Electronic Design Automation Software

PC & Embedded Measurement Application Software

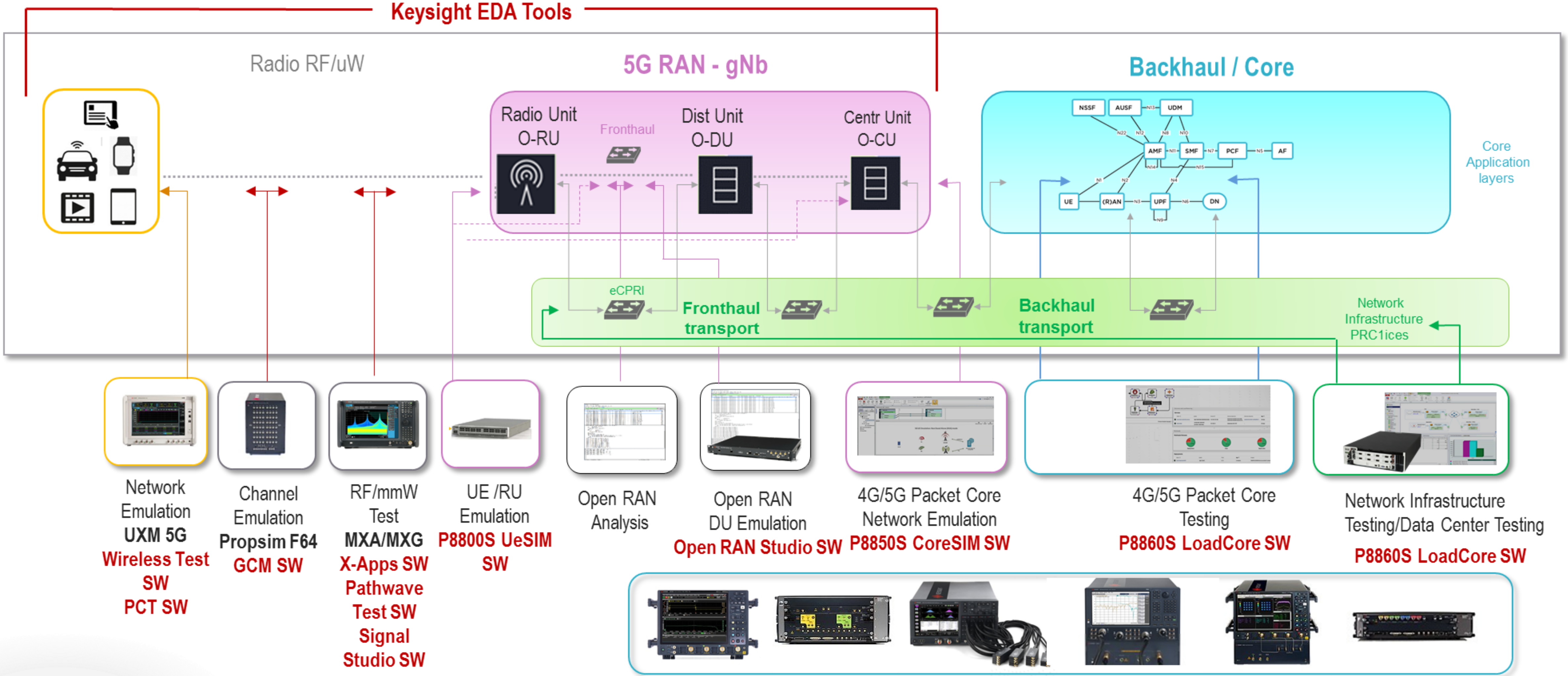
Programming Environments

Productivity Software

Test Automation Platform
KS8400A

Keysight Across Your Development Ecosystem

5G RAN EXAMPLE



Keysight EDA Tools

Radio RF/uW

5G RAN - gNb

Backhaul / Core

Radio Unit
O-RU

Fronthaul

Dist Unit
O-DU

Centr Unit
O-CU

Core
Application
layers

eCPRI

Fronthaul
transport

Backhaul
transport

Network
Infrastructure
PRC1ices

Network
Emulation
UXM 5G
Wireless Test SW
PCT SW

Channel
Emulation
Propsim F64
GCM SW

RF/mmW
Test
MXA/MXG
X-Apps SW
Pathwave Test SW
Signal Studio SW
VSA SW

UE /RU
Emulation
P8800S UeSIM SW

Open RAN
Analysis

Open RAN
DU Emulation
Open RAN Studio SW

4G/5G Packet Core
Network Emulation
P8850S CoreSIM SW

4G/5G Packet Core
Testing
P8860S LoadCore SW

Network Infrastructure
Testing/Data Center Testing
P8860S LoadCore SW

Electrical and Optical Physical Layer Test
UXR/M8040/DCA/LCA/OMA/AWG

Keysight Across Your Development Ecosystem

SEMICONDUCTOR EXAMPLE

Device Fabrication Technology

Device & Process Development	Modeling

B1500/B2200

Pulsed IV Memory Test Solution

IC-CAP

IC Design

Design & Simulation	Prototyping	DVT

EDA Software

Manufacturing

Wafer Fabrication	WAT Test	CP Test	Packaging	Final Test

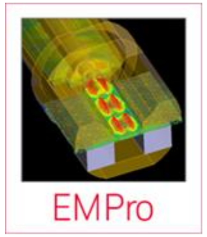
Parametric Test System

Pathwave Design Software

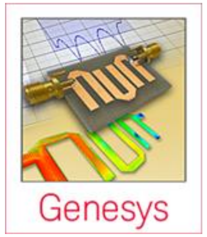
SystemVue
– ESL

Advanced Design System

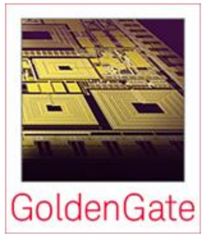
ADS
– MMIC,
RF Board,
SiP, HSD



EMPro
– 3D EM



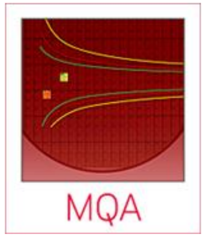
Genesys
– RF Board


GoldenGate

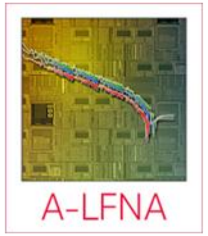
GoldenGate
– RF Mixed Signal

IC-CAP
– Device Modeling
GaAs, GaN,
Custom Models
Measurement

MBP
– Device Modeling
Silicon



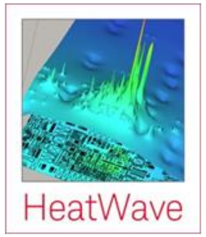
MQA
– Model Quality
Assurance



A-LFNA
– Advanced Low-Frequency Noise Analyzer

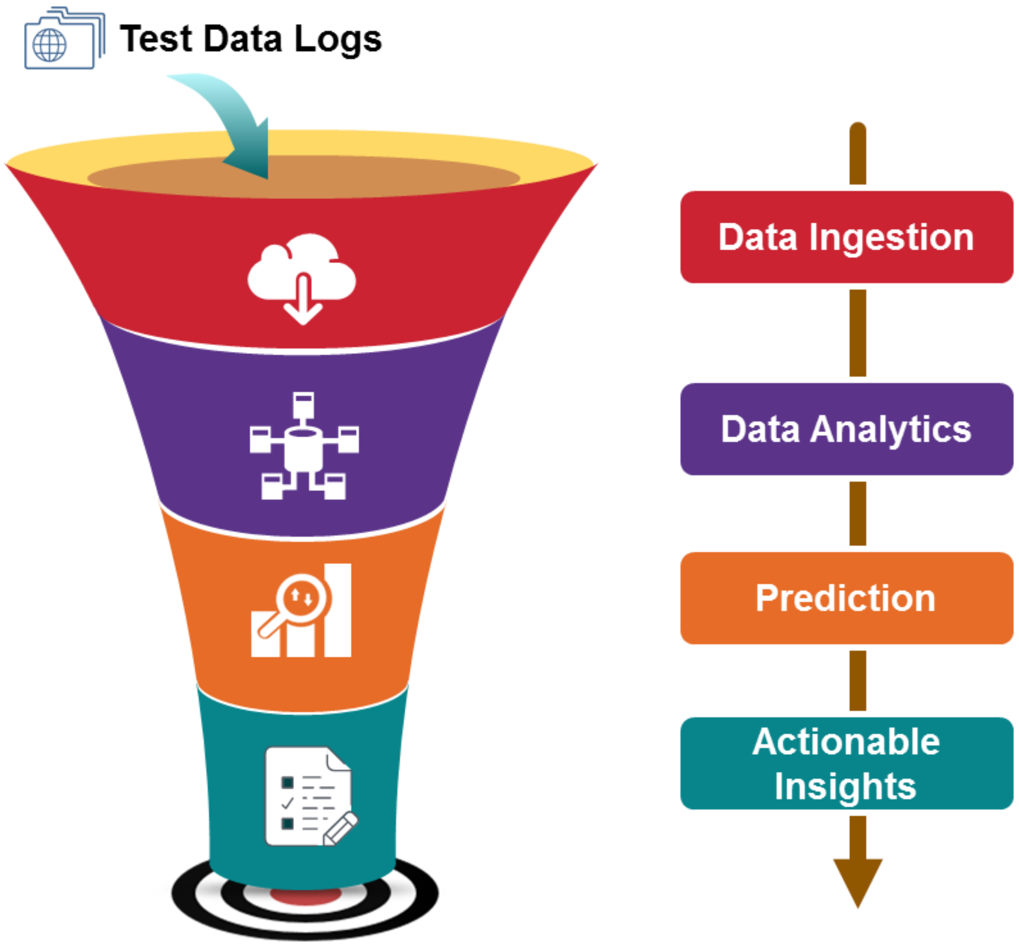
WaferPro Express

WaferPro Express
– Wafer-level automated measurement

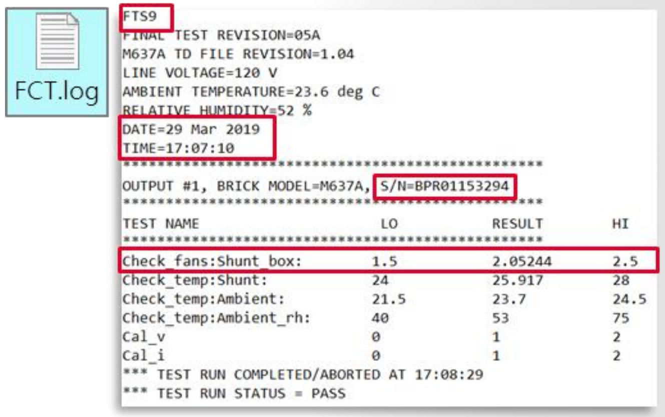


HeatWave
– IC electro-thermal analysis

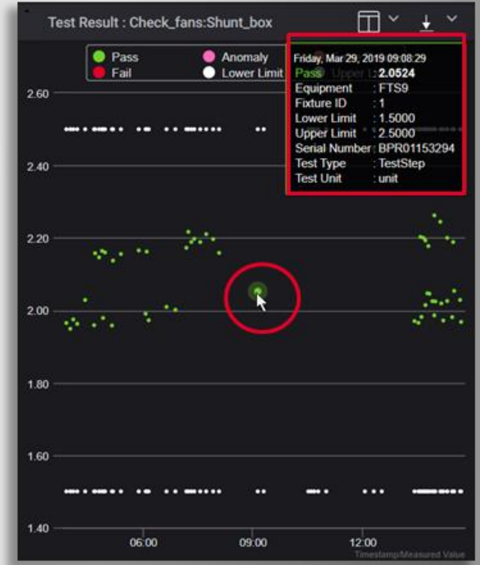
Pathwave Manufacturing Analytics



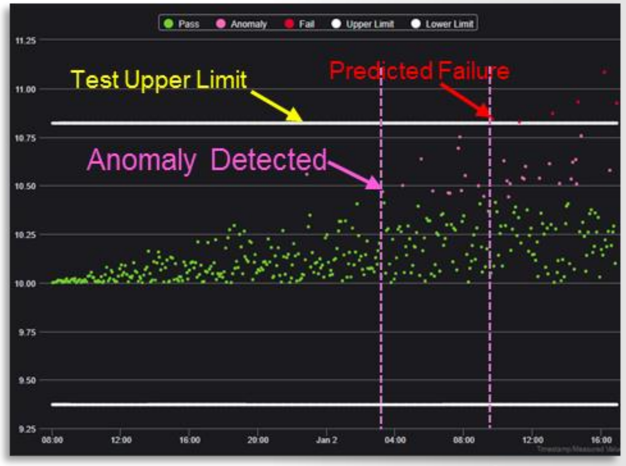
Quality **Consistency** **Efficiency**



```
FTS9
FINAL TEST REVISION=05A
M637A TD FILE REVISION=1.04
LINE VOLTAGE=120 V
AMBIENT TEMPERATURE=23.6 deg C
RELATIVE HUMIDITY=52 %
DATE=29 Mar 2019
TIME=17:07:10
*************************************************
OUTPUT #1, BRICK MODEL=M637A, S/N=BPR01153294
*************************************************
TEST NAME                    LO         RESULT       HI
*************************************************
Check_fans:Shunt_box:        1.5        2.05244      2.5
Check_temp:Shunt:            24         25.917       28
Check_temp:Ambient:          21.5       23.7         24.5
Check_temp:Ambient_rh:       40         53           75
Cal_v                        0          1            2
Cal_i                        0          1            2
*** TEST RUN COMPLETED/ABORTED AT 17:08:29
*** TEST RUN STATUS = PASS
```

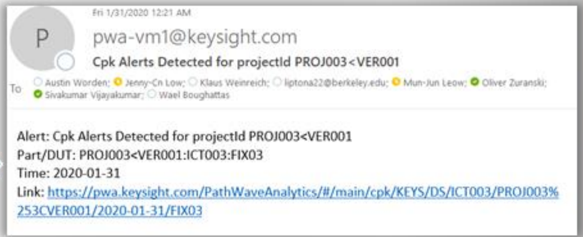


Friday, Mar 29, 2019 09:08:29
Pass : 2.0524
Equipment : FTS9
Fixture ID : 1
Lower Limit : 1.5000
Upper Limit : 2.5000
Serial Number : BPR01153294
Test Type : TestStep
Test Unit : unit



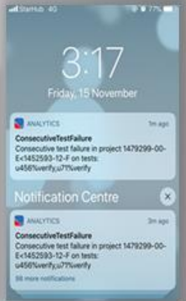
At time T = 0 Anomaly predicted before it becomes a failure

Failure expected to occur at time T = X



Fri 1/31/2020 12:21 AM
pwa-vm1@keysight.com
Cpk Alerts Detected for projectId PROJ003<VER001
To Austin Worden; Jenny-Cn Low; Klaus Weinreich; liptona22@berkeley.edu; Mun-Jun Leow; Oliver Zuranski; Sivakumar Vijayakumar; Wael Boughattas

Alert: Cpk Alerts Detected for projectId PROJ003<VER001
Part/DUT: PROJ003<VER001:ICT003:FIX03
Time: 2020-01-31
Link: https://pwa.keysight.com/PathWaveAnalytics/#/main/cpk/KEYS/DS/ICT003/PROJ003%253CVER001/2020-01-31/FIX03



3:17
Friday, 15 November

ANALYTICS 1m ago
ConsecutiveTestFailure
Consecutive test failure in project 1479299-00-E<1452593-12-F on tests: u456%verify,u71%verify

Notification Centre

ANALYTICS 3m ago
ConsecutiveTestFailure
Consecutive test failure in project 1479299-00-E<1452593-12-F on tests: u456%verify,u71%verify

KEYSIGHT TECHNOLOGIES

Continuous Challenges for the Industry

- **Increased technology complexity**
- **Increased software content**
- **Changing resource requirements**
- **Schedule and cost pressures**
- **Inconsistent tech support**

45% Of customers say existing support models don't meet business needs

89% Of customers say having access to integrated software tools would improve time to market

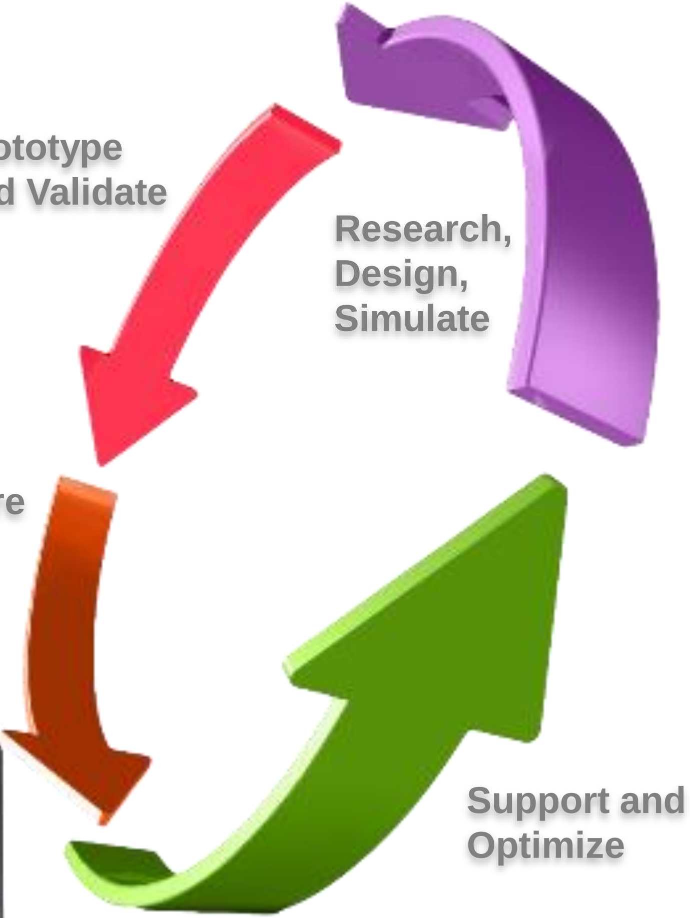
62% Of customers report an incorrect setup of test instruments impact business results

95% Of test professionals need help every month

Drive the evolution of our software, services and support model

Keysight in Your Product Lifecycle

- Test Instruments
- Design & Test Software
- Education, Training, and Consulting Services
- Repair & Calibration Services
- Technical Support
- Hardware and Software Upgrades and Updates


Prototype and Validate
Research, Design, Simulate
Manufacture and Test
Support and Optimize

Keysight Enterprise Select

For Keysight's Most Valued Customers !!

Typical Engagement
Single location, single site agreements

- Fragmented budget and purchasing process
- Per incident support
- Node-locked perpetual licensing
- Unpredictable spend
- Multiple contract complexity
- Technical/tactical relationship

Enterprise Select
Multi-year time-based agreement

- Subscription based access to Keysight's Software and Services portfolio
- Universal Software Access w/remix capability to accommodate demand changes and provide access to new technology
- Multi-year term with predictable spend
- Services and software under single org-wide agreement
- Strategic proactive partnership

For an annual commitment you will get what you need to get your job done

Keysight Enterprise Select

Software Offerings

Features	Benefits
Remixable to entire SW portfolio	Flexible configuration per need
Access to new technologies	Address new design requirements
Floating Licenses	Shareable Asset Management and provides better utilization
Includes software updates, upgrades, and priority support	Superior productivity
Predictable Fixed Costs	Better Cost Management
Much Larger Capacity	Meet all requirements thru term
OPEX Accounting	Preferred Accounting Treatment

Keysight Enterprise Select

Services Offerings

Features		Benefits
Umbrella policy - Cal/Repair for annual fee	→	Faster access to services without having to issue PO per incident
Predictable Fixed OPEX	→	Control and manage spending
Partnership model to meet current and future roadmap	→	Increased productivity
Managed Lab offering (on-site)	→	Focus on your core competency
Serialized Contracts with Remix	→	Dynamic asset list for flexibility and certainty

Keysight Enterprise Select

KeysightCare Offerings

Features		Benefits
Committed TAT for repair, calibration, technical support.	→	Reduced downtime and project delays
Prioritized access to Keysight Application Experts, and Knowledge portal	→	Lower training and hiring costs
Proactive software updates and notifications	→	Improved productivity
Live local language personalized support from globally connected experts	→	Faster support

Transition to Entitled Technical Support

Technical Support Today

Without KeysightCare[1]	With KeysightCare
Best effort Technical Support, no committed response	As low as 2 or 4 business hour response[2]
Local business hour availability only	Access to powerful Knowledge Center
Publicly available self-help content	Cloud based case and asset management
Not Applicable	Proactive SW updates, cyber-security notification[3]

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[1] Custom support agreements may have separate SLA

[2] According to KeysightCare tiers Assured, Enhanced.
KeysightCare Enhanced available in US, Germany, China, Japan only

[3] Requires KeysightCare Software

Transition to Entitled Technical Support

Effective March 1, 2021

Without KeysightCare[1]	With KeysightCare
No Technical Support[4]	As low as 2 or 4 business hour response[2]
No access to Knowledge Center	Access to powerful Knowledge Center
Publicly available self-help content	Cloud based case and asset management
Not Applicable	Proactive SW updates, cyber-security notification[3]

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[1] Custom support agreements may have separate SLA

[2] According to KeysightCare tiers Assured, Enhanced. KeysightCare Enhanced available in US, Germany, China, Japan only

[3] Requires KeysightCare Software

[4] Presales and simple questions may be addressed, but no custom support

KeysightCare - Entitled Technical Support

COMPLETE CUSTOMER CARE, BEYOND BASIC WARRANTY

Cloud-based Customer Portal

Equipment Configuration Management

Proactive Software / Firmware Update

Dedicated Resource with Committed Response Time and Service TAT

KeysightCare Portal Login:
http://www.keysight.com/find/keysightcare.login

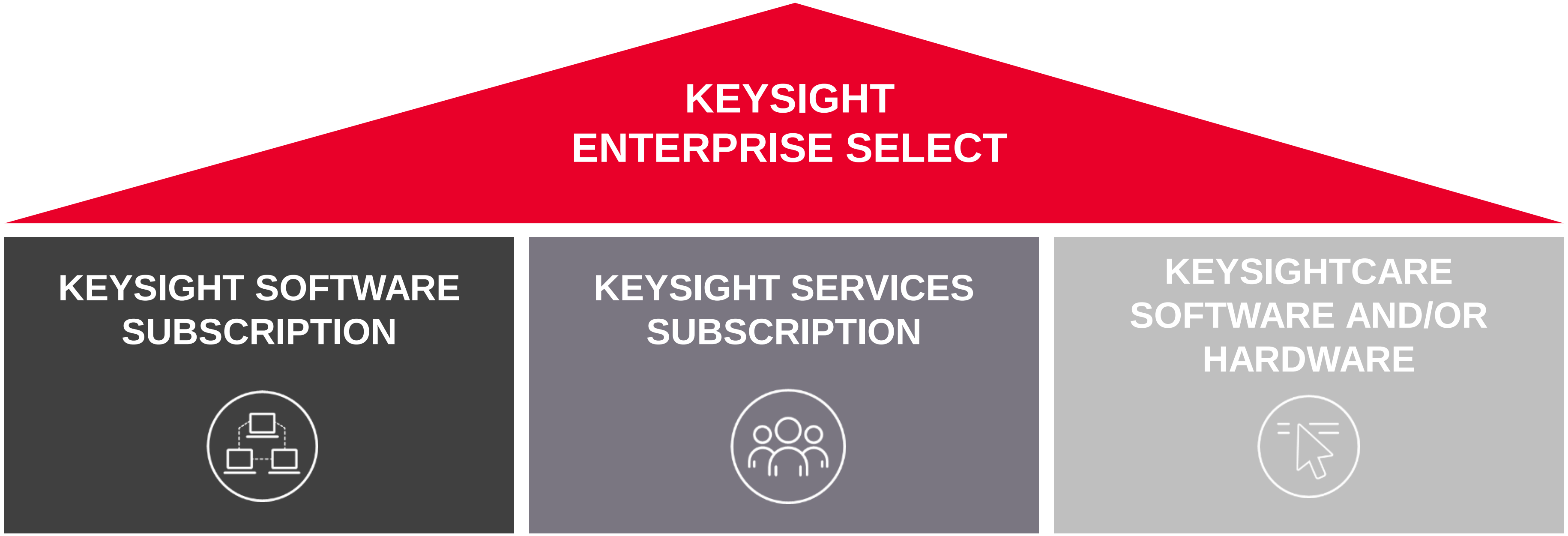
Request Support **Check Case Status** **View Assets** **Search Knowledge Center**

KeysightCare Contact Center:

- ☐ Taiwan:
  0800-047-866 – select 1
  Keysightcare.taiwan@keysight.com
- ☐ China Mainland:
  400-810-0189 (Mobile)
  800-810-0189 (Fixed Line) – select 2
  keysightcare.china@keysight.com

Keysight Enterprise Select

ANNUAL SUBSCRIPTION TO SOFTWARE AND SERVICE YOU NEED



KEYSIGHT ENTERPRISE SELECT

KEYSIGHT SOFTWARE SUBSCRIPTION

KEYSIGHT SERVICES SUBSCRIPTION

KEYSIGHTCARE SOFTWARE AND/OR HARDWARE

KEYSIGHT
WORLD 2020