



## **Outline**

- Winmate Vision/ Strategy/ Quick Facts
- Manufacturing & Global Service Capabilities
- Design and Engineering Capabilities
- Key Part Sourcing & Quality Control Capabilities
- Marketing & Branding



## Who is Winmate?



**21** Years in IPC Market, focus on rugged application



All in 1 (HQ, PM, RD, LAB, SMT, Logistics, Factory)



Public Listed in Taiwan Stock Exchange since 2007



Certified ATEX (IEC80079) Medical (ISO13845) quality system & production



**135** Developers & Engineers - EE, SW, FW, ME, RF, Integration



Vehicle Diagnostic for smart car manufacturing



Oil & Gas Special Zone Use



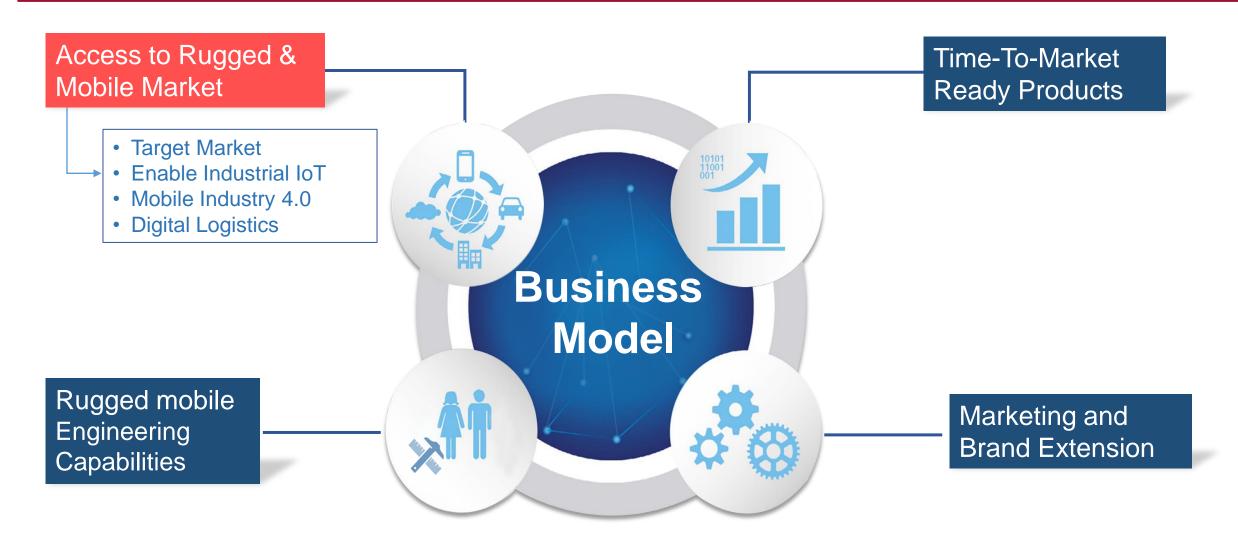
Logistics & Heavy-Duty Vehicle Mount computers



Forklift Vehicle computer

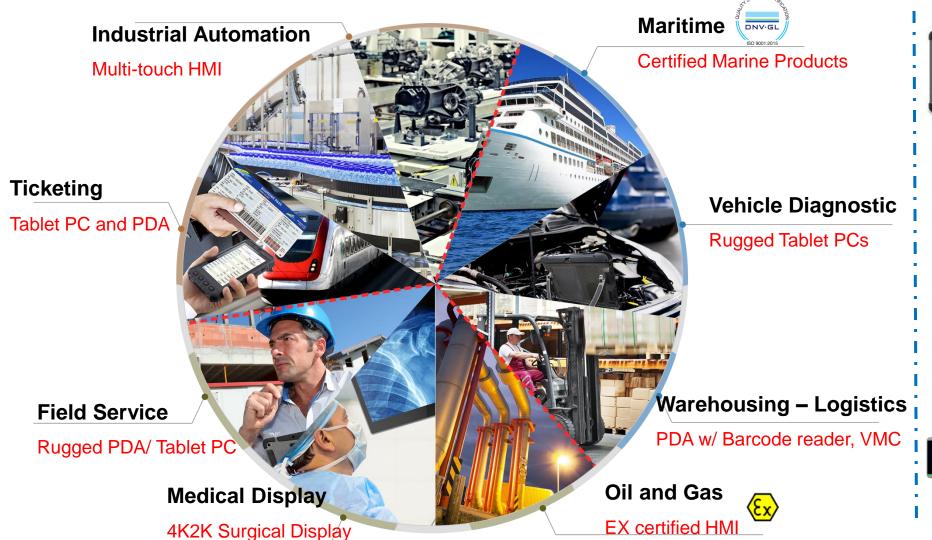


## **How can Winmate Benefit for You?**





# **2018 Target Markets and Product Offerings**





Rugged Tablet PC

**Industrial PDA** 



Rugged Computing, Heavy Duty Vehicle, Marine, Military



HMI Panel PC



**High End Display** 



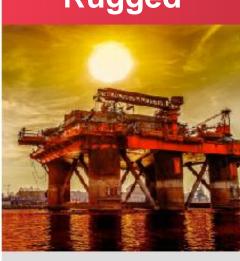
## Winmate's Vision

## **Innovative**



To enhance user experience with latest technologies. (touch, display, slim, light-weight,...)

# Rugged



To fulfill requirements for harsh environment & mission critical tasks.

## Connected



To streamline work process from data collection to cloud computing.

To Enable Intelligent applications



# Rugged Mobile as Key to Enable Industrial IoT and Industry 4.0



#### **Industrial IOT**

- AR (Augmented Reality)
- Automatic Data Collection
- Mission Critical Analysis



## **Industry 4.0**

-Mobile HMI for Artificial Intelligence



## **Digital Logistics**

- Logistic Revolution
- Lean productionReal time Work Order dispatch



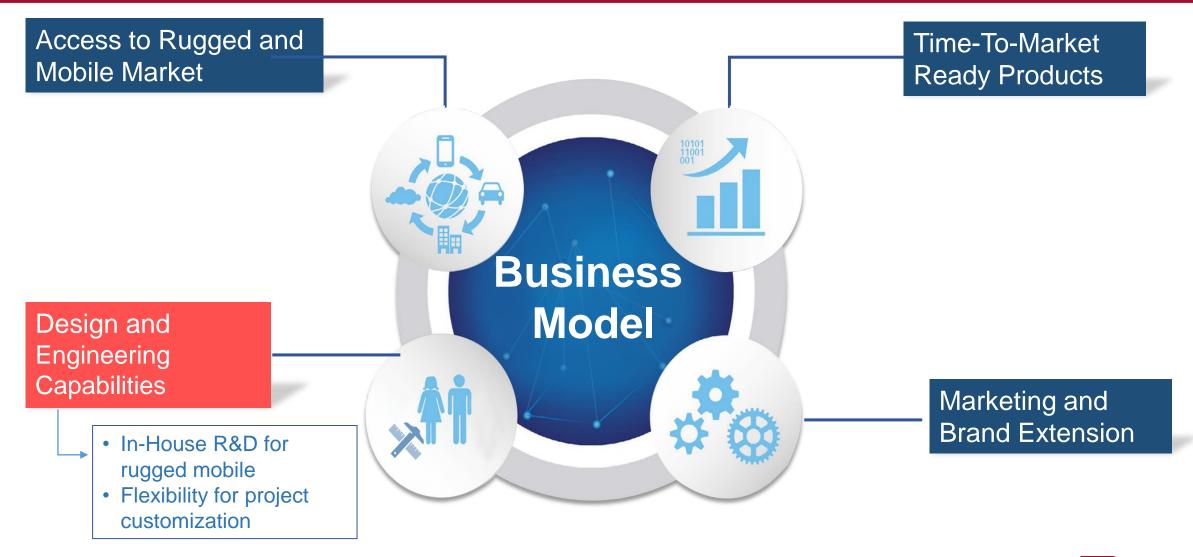


# **Global Distributor & Service Capability**





# What Winmate can benefit for You?





# Strong Rugged Design Team: To Meet Environment Challenge (EE, ME)

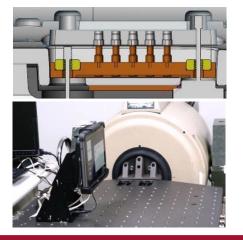
**DROP-** Enhanced Rib & Frame Double Injection Design



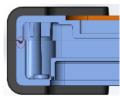




**Vibration-** Pogo Pin design



IP solution (O-ring/ double injection)





**Tumbling Test – Rugged Design** 



Moisture / EX safe-Potting and Conformal Coating





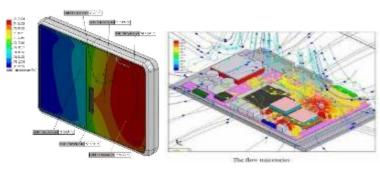
**Potting for Ex Products** 



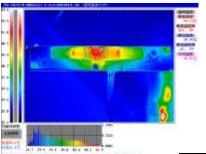
**Conformal Coatings** 

#### **Thermal Simulation / Modeling**

Surface temp. estimation, thermal solution scenario



#### Thermal testing & Regression







# Talented Software Decoder Team: To enable IOT & Industrial application

#### **Security Features:**

- TPM v1.2
- MS Bit Locker / Security Boot
- Intel iAMT/ Anti-Theft
- Computrace ready / FIPS 140-2



#### **3<sup>rd</sup> party MDM supports:**

- SOTI MDM
- AirWatch MDM
- WaveLink Terminal Emulation



#### **User Utilities -**

- Key/ button program tool (Hot-tab)
- Barcode/ RFID/ UHF control
- & Setting (Hot-tab/ WDC)
- Barcode Wedge (Hot-tab)
- Bluetooth EZ pair / Camera Utility



## **Developer supports:**

 API/ SDK/ sample codes for hardware / sensor/ reader control





#### **BIOS/ EC control:**

- BIOS/ UEFI porting
- MCU control (ignition delay)
- EC (Charger/ hardware) control



## **Kernel / Framework build:**



# Ignition Detection / Delay Design Ignition ON Ignition

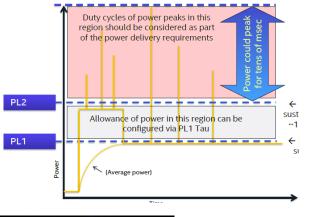
DC OFF



#### **Dynamic Thermal Program**

#### Factors:

- Temperature
- Time Factor
- Total Package Power (Instead of CPU freq.)







# System Integration Experience: For Rugged & Industrial Mobile Devices

#### Panel - Touch Enhancement

#### **Wet Bonding**



Gluing the gap between frame and panel

#### **Dry Bonding**



Panel with touch thermocompression bonding

Pressurized Degassing

#### ! RFID/ Barcode Integration



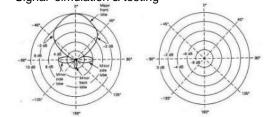


#### Wireless (GPS / WWAN)

#### **WWAN Testing**



High Efficiency Antenna design Signal simulation & testing



**GPS Testing** 



# Focus market Certification





















Place the touch / Glass using automatic arm

# Reliability Tests for Rugged features for Tablet PCs

## High/ Low Temp.



## **Humidity Test**



**Tumbling Test** 



## **Drop Test**



MIL-STD-810G
4ft to concrete,
8 corners
12 edges
6 planes
Total 26 drops

#### **General Vibration**



**EMC & ESD safety** 



**Water Resistance** 



## **Impact Test**



**IK07** 500g, 40cm



# **Key Part Sourcing**

**Panel Key Part** 







 Direct business with Embedded / Industry Display vendors for longterm supply and direct FAE support and Quick delivery time with Panel maker: AUO/ Innolux, Sharp

**Processor Strategic Partner** 







- Strategic Partner with Intel/ Freescale for Early Access program
- Direct Support from Scaler provider: Realtek for high-end display





 FPGA Capability building up for special display



# **Winmate's Quality System**

Certificat	ion	System	Since	Certified by	
ISO 9001:2008	9001	Quality Management System	2002	TÜV Rheinland	
ISO 14001:2006	14001	Environmental Management System	2008	TÜV Rheinland	
CG 6004	Corporate Overrance	Corporate governance system	2008	Taiwan Corporate Governance Association	
IECQ QC080000	Complement	Hazardous substance process management (included RoHS)	2009	TÜV Rheinland	
ISO 14064:2006	TUV SSS	Greenhouse gas accounting & Verification	2009	TÜV Rheinland	
ANSI/ESD S20.20: 2007	ASSIGNATION.	Control of static electricity & electrostatic	2010	SGS	
ISO-13485	SGS	ISO Standard for the design and manufacture of medical devices	2015	SGS	
IEC-80079-34	<b>(6)</b>	ATEX/ IECEx QAR, QAN	2015	CSA	

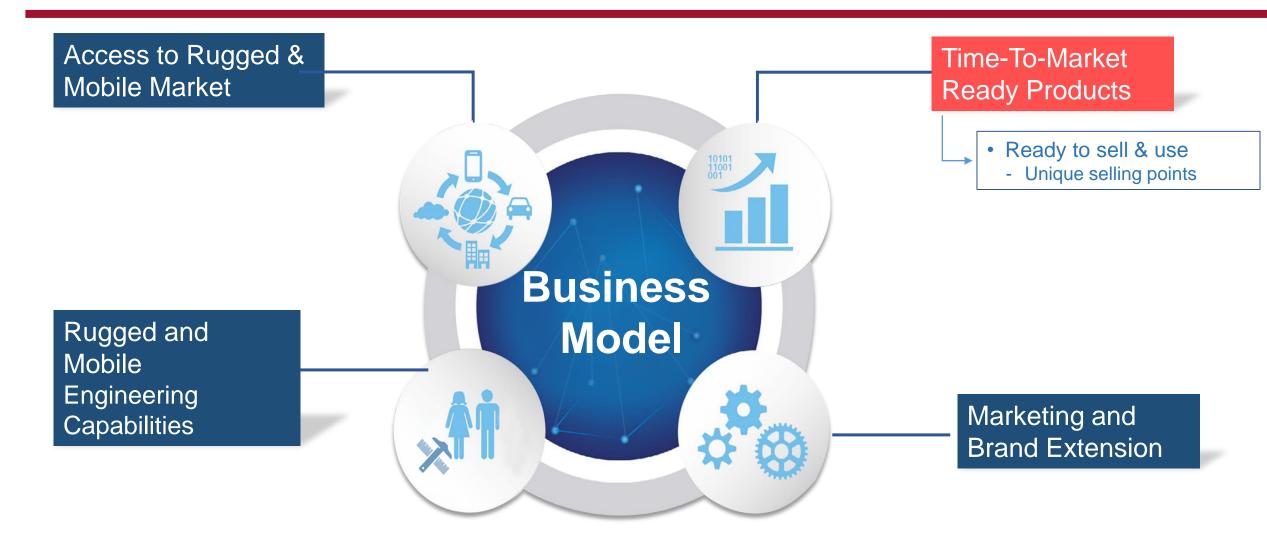


# **Overall Product Certificate Coverage**

Category	Certification	Certified by
Military	MIL-STD-810G (Reliability) MIL-STD-461F (EMI, optional) DO-160 (Aviation)	
Marine	DNV 2.4 IEC 60945 IACS-E10	DET Norske VERITAS AS SGS Taiwan
Industrial	CE / FCC (WiFi, 3G/ RF) EN55022 UL IEC 60529 (IP65/67)	Taiwan Corporate Governance GCC UL Taiwan
Cellular	PTCRB (Certification of Wireless Devices), AT&T ,VzW	CTIA Authorized Test Lab
Railway	EN50155	SGS Taiwan
Transportation	e-mark certification	Societe Nationale De Certification ET D'Homologation
Medical	EN60601-1-1 EN60601-1-2	Cerpass Technology/ SPC



# What Winmate can benefit for You?





# Roadmap (1) - ARM Mobile Tablets & PDAs

## **Rugged Tablet**





#### **Android Platform Update:**

- Android 4.2 to 5.1

Q1-2018

- Android 5.1 to 6.0 *Dec-2017* 

**Verizon Certified PDA/ Tablet** 

**Industrial PDA** 



E430RT WinCE6.0/WEH6.5



E430RM4L Android 5.1



E500RM8 Android 5.1



E500RM8-67 (with IP67) *Q4-2017* 



# Roadmap (2) - Windows Mobile Device

13.3"/15" Tablet / Rugged Laptop





12" / 12.2" Rugged 2-in-1 Kabylake 7<sup>th</sup> Core i5 1920x1080, 1000nits (Planning stage)

### **Options for Higher processor:**

- Intel 5<sup>th</sup> into 7<sup>th</sup> Gen for

Dec-2017

Keyboard for data entry

OS for Windows 10 IoT and Linux/ **Ubuntu** 

**10.1" Tablet** 

M101B (1920 x 1200) M101BL (1280 x 800) M101BT, Smart Card Reader (1280 x 800)



₩indows IoT

ubuntu



M101B MK2.0 (M101P) Intel Pentium N4200 *Q4-2017*  M101S Intel Core i5 6200U *Q4-2017* 

7-8" Tablet



7" M9020 / M9020B



8" M800BW (X86)



8" M101BK *Q1-2018* N2930 + QWERTY keyboard



# Roadmap (3) – Vehicle Mounted Computer/ Heavy Duty computer

## **Fixed Mounting**





FM10A

## Android OS FM10A / VMC

P-Cap Multi-touch on the Heavy duty/ Gwin panel computers

## Rugged **G-Win**



G-WIN 8.4" / 10.4" / 12.1" / 15"



Gwin- Heavy Duty Vehicle 7", 10.1", 12.1", 15"



7" Vehicle Mount with Buttons



# Roadmap (4) – Industrial Panel PC

Panel PC (x86) PM, OF, CH, Front IP65



BayTrail PPC: 8.4"~21.5"



Core i3/i5/i7 PPC: 8.4" - 21.5"



IK70 – Skylake/Kabylake Intel Core i3/I5/I7 Panel PC

X86 Platform Update:

- Intel 5<sup>th</sup> into 7<sup>th</sup> Gen

New 15"/ 24" p-cap chassis for Display/ PPC

P-CAP Chassis



15". 24" 1024x768, Plastic, VESA mount
BayTrail /Freescale/Display



19"/21.5"/32"Aluminum Chassis Display



IK32– Skylake/Kabylake 3.5" Intel Core i3/I5/I7 Panel PC

Bartype



19", 27.6", 28.6, 38" Open Frame and Chassis BayTrail /Freescale/Display



# Roadmap (5) – Rugged HMI / IP65-IP67

**Stainless IP65** 



Full IP66 /65 Stainless 15", 17", 19", 22" (Display & Dual Core Atom & Baytrail & Core i5)



Flat P-CAP Stainless IP65 10.4", 15", 17",19", 21.5" Display / PPC Broadwell )



Flat P-CAP Stainless IP65 32" PPC Broadwell

## X86 Platform Update:

Intel 5<sup>th</sup> into 7<sup>th</sup> Gen

**IP67** 



15" G-Win PPC (Haswell / Baytrail) / Atom) / Display



10.4" / 15" / 19" Stainless PPC-Baytrail / Display



19" Display / PPC (Core i5 / Baytrail)



# Roadmap (6) – Multi touch HMI

- Easy to service
- In-wall panel mount
- Rich I/O;
- Expansion (PCIe)
- Aluminum narrow bezel
- 12.1"/15"/17"/19"/21.5"/24"



**x86 ARM** 

- Slim design
- Intel Support PoE
- With optional Light bar, RFID
- 5"/7"/10.1"/15"



M-Series HMI, Multi Function HMI

# **x86 ARM**

- Cost efficient platform
- In-wall panel mount clip design
- Small/ Compact / space saving
- Support PoE (Optional) / CAN
- 4.3/7"/10.1"/15.6"



**Ë-Series HMI**, Easy Mount HMI

- New E series in tooling (Q1, '18)

- Pcap Open Frame

- Self interactive KIOSK
- i/o facing downward for easy installation
- P-CAP open frame
- 7"/10.1"/15"/21.5"

S-Series HMI, Slim Line HMI

**x86** 



Self Interactive Kiosk – Open Frame P-CAP



# Roadmap (7) – IoT Gateway – EAC mini

New compact 100x 70mm solution

EAC Mini IoT Gateway



**EAC Mini** 

• Intel N3350 / N4200

• Operation Temp. : -15~55°C

• Storage Temp. : -15~70°C

• Size : 100 x 70 (mm)

• USB x 2, LAN x 2, HDMI

Expansion slot design

• OS: Windows 10 IoT, Linux

EAC Mini 2<sup>nd</sup> Gen Q1/2018

ARM Freescale

• Operation Temp.: -15~55°C

• Storage Temp. : -15~70°C

• Size: 100 x 70 (mm)

• USB x 2, LAN x 2, HDMI

• Expansion slot design

• OS: Android 6.0, Linux

EAC Mini 3rd Gen Q2/2018

• Intel E3930

• Operation Temp.: -20~60°C

• Storage Temp. : -40~70°C

• Size: 100 x 70 (mm)

• USBx2, LANx2, HDMI

Expansion slot design

• OS: Windows 10, Linux Windows 10 IoT Core

**Expansion Module** 



3 x Serial Port RS-232/422/485



24-Channel Isolated Digital I/O w/ counter



2 x Isolated Ports CAN BUS, CAN Open



WiFi: 802.11 a/b/g/n 2T2R w/ BT 4.0



3G / 4G-LTE Cellular module, GPS, SIM holder



IoT LORA Module



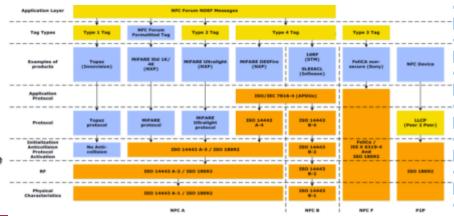
# **RFID** and Barcode Integration



- EPC global Gen2: 860 -930MHz
- Dual antenna for both NA/ EU frequency
- 3 meter reading range

## NFC/ HF-RFID Reader







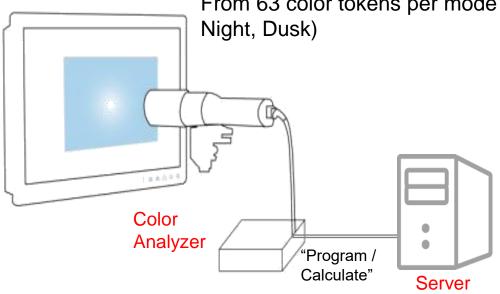
- Image analysis via Imager Camera
- Scan setting optimized suggestion



# **Color Calibration Capability**

ECDIS Color Calibration – for marine electronic chart display

Measure the CIE x , CIE y, CIE Lv From 63 color tokens per mode (Day, Night, Dusk)



	NIGHT	- COLOR RO	SB TAE	BLE								
References			Tune	Tuned Colors Mea		Meas	leasurements		Devi	Deviations		
Token	Color	CIE x	CIE y	CIE Lv	R	G	В	CIE x	CIE y	CIE Lv	ΔL	$\Delta C^*$
NODTA	grey	0.28	0.31	1.20	70	75	78	0.286	0.302	1.09	9.5%	1.10
CURSR	orange	0.50	0.40	1.25	118	65	32	0.499	0.403	1.23	1.6%	0.52
CHBLK	grey	0.28	0.31	2.50	96	107	112	0.284	0.305	2.46	1.7%	1.15
CHGRD	grey	0.28	0.31	2.50	96	107	112	0.284	0.305	2.46	1.7%	1.15
CHGRF	grey	0.28	0.31	1.25	71	77	79	0.287	0.304	1.13	9.3%	1.06
CHRED	red	0.48	0.30	1.25	135	48	61	0.477	0.299	1.23	1.2%	0.45
CHGRN	green	0.31	0.56	2.50	45	117	36	0.323	0.570	2.36	5.6%	1.49
CHYLW	yellow	0.41	0.49	3.00	123	115	41	0.416	0.486	2.95	1.8%	1.12
CHMGD	magenta	0.30	0.17	2.00	150	54	148	0.304	0.164	1.88	6.2%	0.92
CHMGF _	magenta	0.30	0.17	2.00	150	54	148	0.304	0.164	1.88	6.2%	0.93
	Standard					R	esult			Conti	rol De	lta





## What Winmate can benefit for You?





# Winmate Updates- To Compete in New IoT Era



From Selling Board level / Standard products

- Provide Values matching market needs

## **Paradigm Shift**

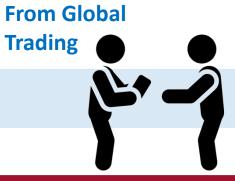
Core Competencies Core Tech. /
Design
Capability

Manufacturing
Capability
(cost control,
customized)

Quality control Capability

Spec – Define & Service Capability

Business Model



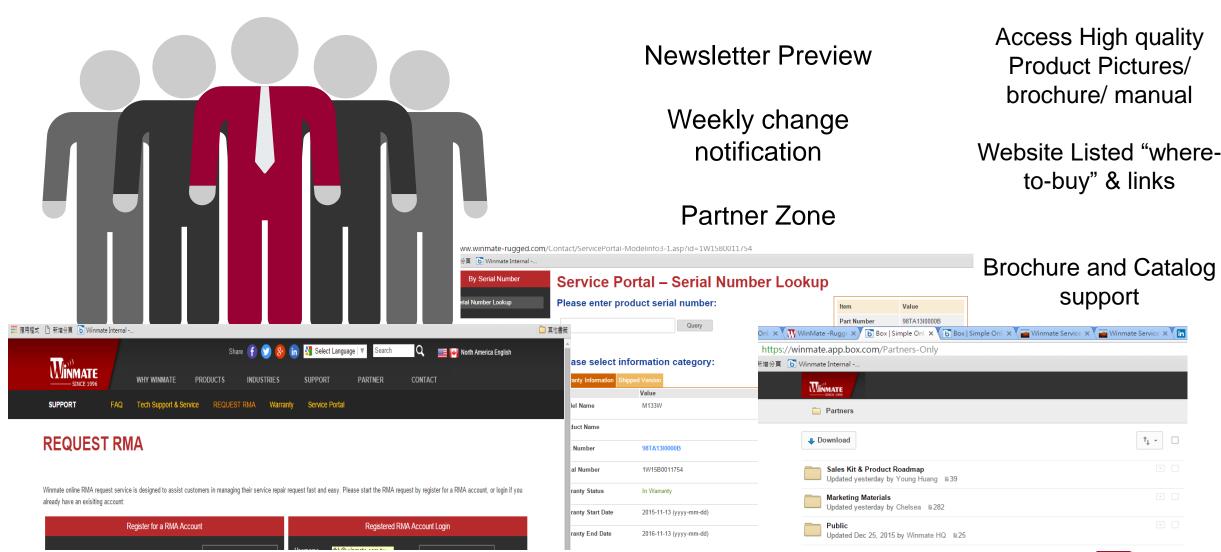


Global Marketing promotion





# **Brand Extension - Marketing Program**









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