

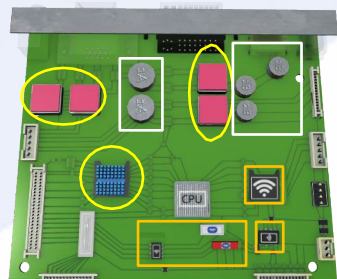
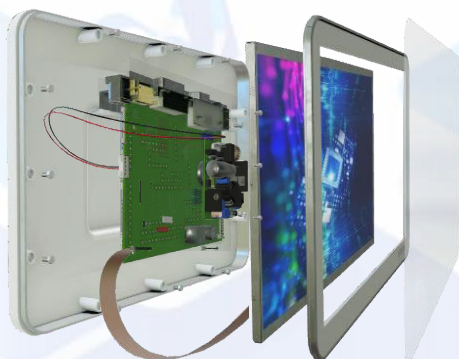
WEBINAR STELIAU TECHNOLOGY

NOUVELLES TECHNOLOGIES ET SOLUTIONS
TIANMA POUR VOS APPLICATIONS INDUSTRIELLES



Jeudi 10 juin 2021

Une offre produit inégalée



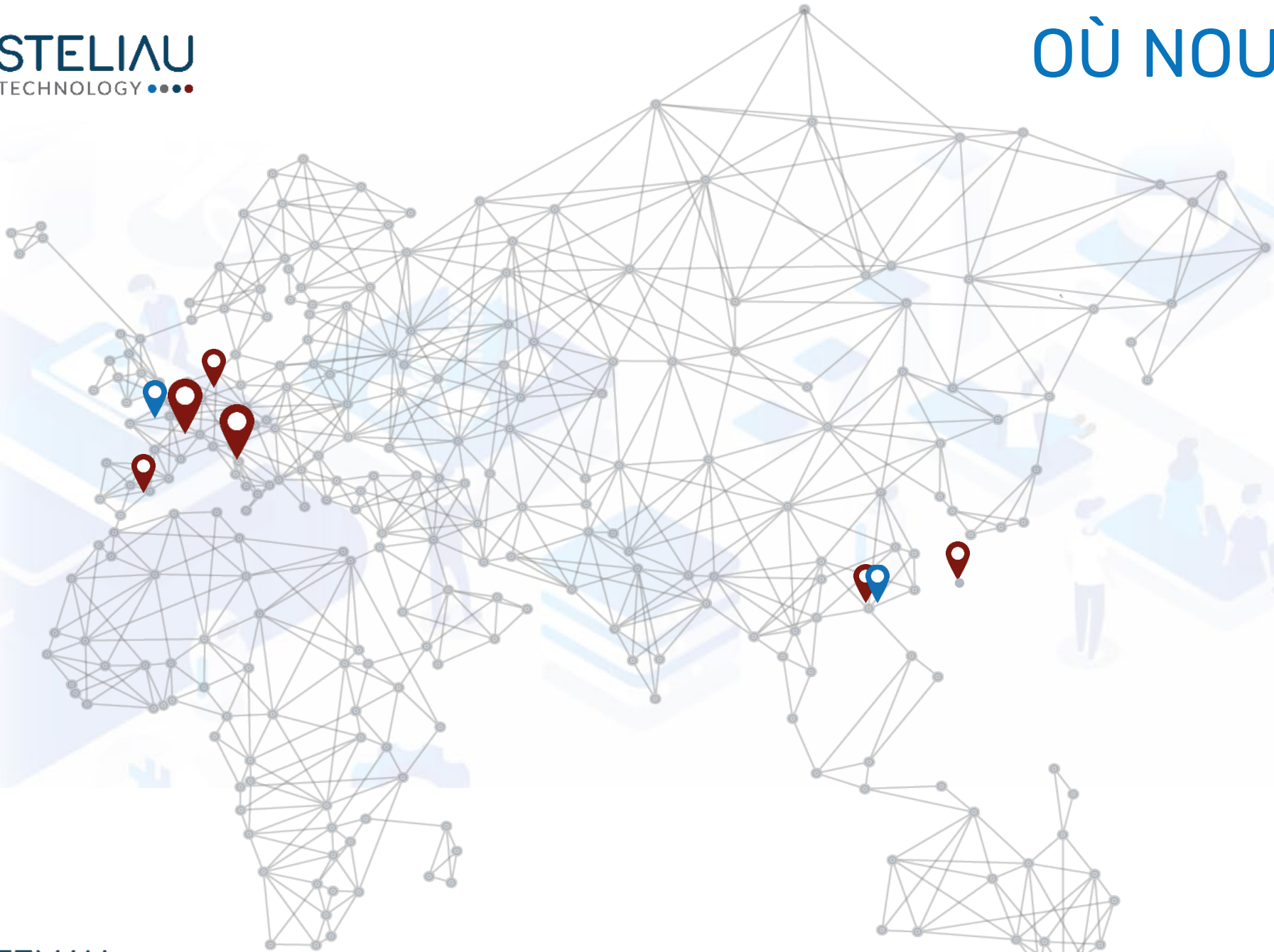
- ⊕ Ecrans & solutions tactiles
- ⊕ Consommables pour électroniques
- ⊕ Systèmes embarqués
- ⊕ Thermique & EMI
- ⊕ Solutions mécaniques
- ⊕ Connectivité & IoT
- ⊕ Connecteurs, câbles & solutions audiovisuelles
- ⊕ Conversion d'énergie

2021

Acquisition de la
société Italienne
Special-Ind



SPECIAL-IND EUROPE
special products for industry



Sièges et bureaux

- France
- Italie
- Espagne
- Allemagne
- Chine
- Taïwan

Stockage

- Le Havre (France)
- Shenzhen (Chine)



UN SUPPORT AVANT ET APRÈS VENTE

- ▶ Une équipe d'ingénieurs commerciaux
- ▶ Des chefs de produits spécialisés pour chaque BU
- ▶ Des ingénieurs supports et des développeurs
- ▶ Un accès direct au support technique de l'usine

DES EQUIPEMENTS ET UNE ORGANISATION DE QUALITÉ

- ▶ Une salle blanche pour le montage des dalles tactiles
- ▶ Deux machines de découpe sur mesure de pads thermiques
- ▶ Un laboratoire pour l'assemblage et la configuration d'écrans, de tablettes et de PC industriels
- ▶ Une ligne d'intégration pour la création de sous-ensembles
- ▶ Un atelier dédié au contrôle qualité et aux traitements RMA
- ▶ Plus de 1 500m² d'espace de stockage



► Tianma, votre partenaire d'affichage de pointe

Sebastien Delaunay, Senior Account Manager / Business Development, France - Tianma Europe

► Technologies et produits Tianma : focus sur la nouvelle Série-P, dédiée aux applications et marchés professionnels

Gerhard Bickel, Principal Marketing Engineer - Tianma Europe

► Questions et réponses

► Conclusion

More than 30 years of expertise in the Display market

Foundation

- 
- 1983:** Established in Shenzhen
 - 1984:** 1st TN Line in China founded
 - 1993:** 1st STN Line in China founded
 - 1995:** Listed on the Shenzhen Stock Exchange
 - 2003:** 1st CSTN Line founded

1983~2005

TFT

Automotive

Smart Phone DSC

Industrial C



2006~2012

Expansion

- 2006: Shanghai G4.5 TFT-LCD founded
- 2008: Chengdu G4.5 TFT-LCD founded
- 2009: Wuhan G4.5 TFT-LCD founded
- 2010:** Acquisition of Shanghai G5 TFT-LCD
- 2010:** Shanghai G4.5 AMOLED Pilot line founded
- 2011: Acquisition of NEC LCD Technologies**
- 2011:** Xiamen G5.5 LTPS founded
- 2012: Set up PDBU

CSTN

Electricity Meter Game

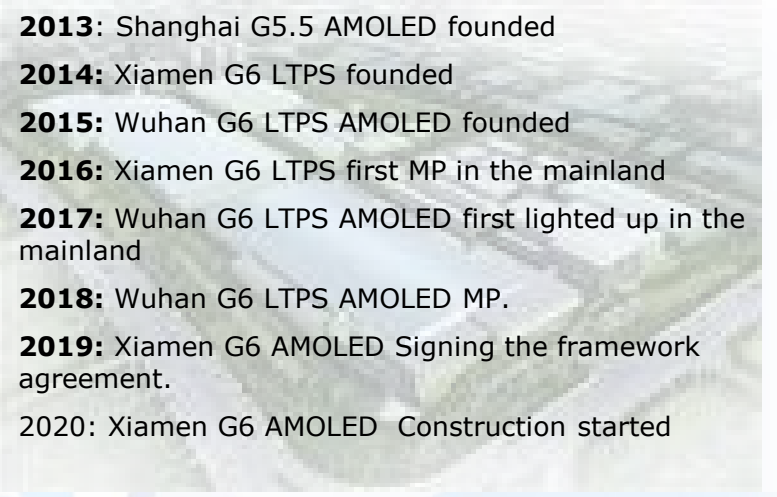
STN

Automotive

TN

Mobile Phone MP3

Breakthrough

- 
- 2013:** Shanghai G5.5 AMOLED founded
 - 2014:** Xiamen G6 LTPS founded
 - 2015:** Wuhan G6 LTPS AMOLED founded
 - 2016:** Xiamen G6 LTPS first MP in the mainland
 - 2017:** Wuhan G6 LTPS AMOLED first lighted up in the mainland
 - 2018:** Wuhan G6 LTPS AMOLED MP.
 - 2019:** Xiamen G6 AMOLED Signing the framework agreement.
 - 2020: Xiamen G6 AMOLED Construction started

2013~Present

AMOLED

Automotive

LTPS

Smart Phone

TFT

Industrial



A growing company

Y 2024

>10



Total
Assets

>5



Revenue

>30.000



Total
Employment

Y 2020

9

4.3

30.000

Y 2015

6.1

Unit: Billion USD

2.33

Unit: Billion USD

27.000

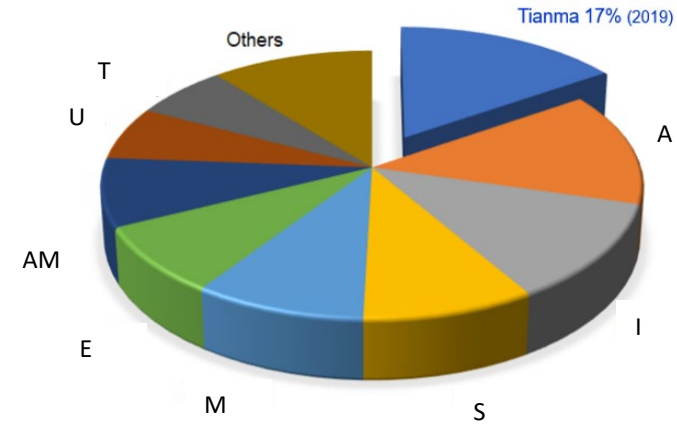
Market positioning

Focus on small and medium size

From 1.4" to 30"

Nr. 2 Worldwide for TFT <20"
Nr. 1 in Europe for TFT <20"
17% share (2019)

Tianma market share in Europe
For TFT < 20"



Consumer market



Smart phone/smart device

- ✓ WW Top 1 for LCD full screen
- ✓ WW top 1 LTPS maker

Professional market

Automotive



- ✓ WW Top 2 Cluster display
- ✓ Top 1 automotive display maker in China

Industrial/Medical



Leading Position in various target segments

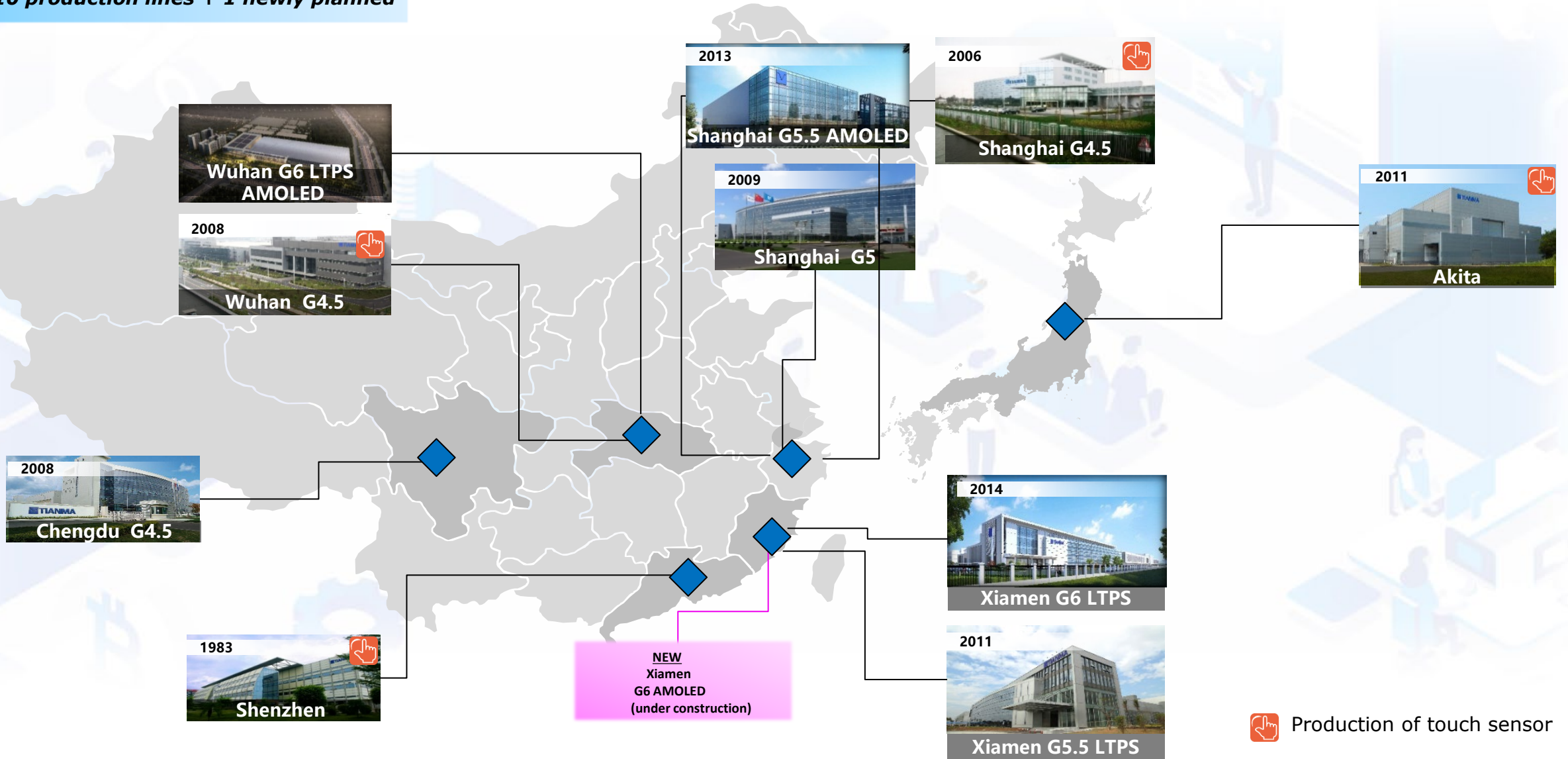
New market



AR/VR, New robotics, 3D printer, wearables

In-house factory network

10 production lines + 1 newly planned



A Global company



Commitment to Industrial & Medical markets



Medical
Optical performance
High reliability



HMI
Touch function
High reliability



POS
Touch function



Rugged PC
Touch function



Financial POS
Touch function



Outdoor handheld
Outdoor readability



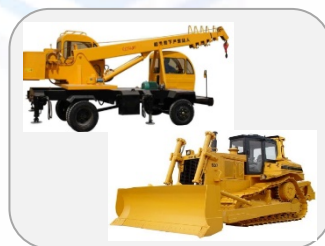
Smart homes
Free form
Optical performance



Wearable device
Free Form
Outdoor readability



White goods
High reliability



Construction equipment
High reliability, Outdoor
readability



Aviation Entertainment
Thin
High reliability



Marine
High brightness
Wide temperature

Industrial Displays – with and without touch



TFT-LCD modules without touch

- normally standard products
- small size sometimes customized



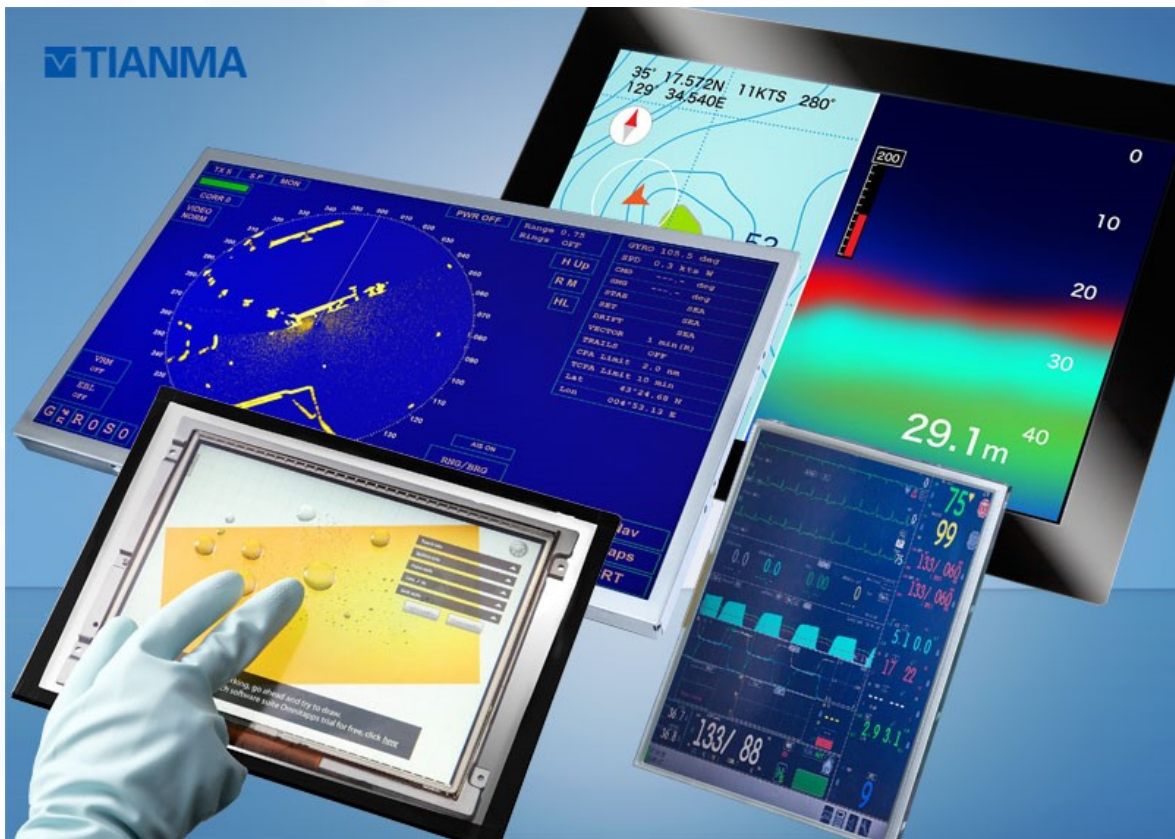
TFT-LCD modules with touch (PCAP*):

- standard products available
- often customized (cover glass, controller, type of bonding, ...)
- all touch sensors and assembly made inhouse

* Projected CAPacitive touch

From standard to customized displays

Beside standard displays we are offering to develop customized displays



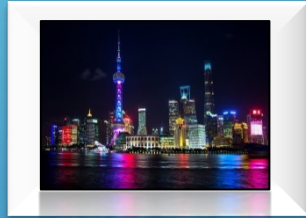
Product technologies industrial

Wide viewing angle



TN → SFT

High resolution



FHD/ 4K2K

High contrast ratio
High black level uniformity



1800:1 → 2200:1
68% → 75%

Free form



Touch sensor integrated



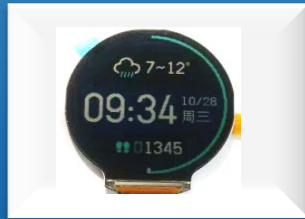
Round shape,
square shape

Reflective



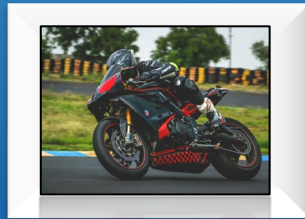
Outdoor. Low power
consumption

Low power



PNLC. Power
consumption 60μW

Anti-vibration



10~400 Hz, X/Y/Z

Super low temperature



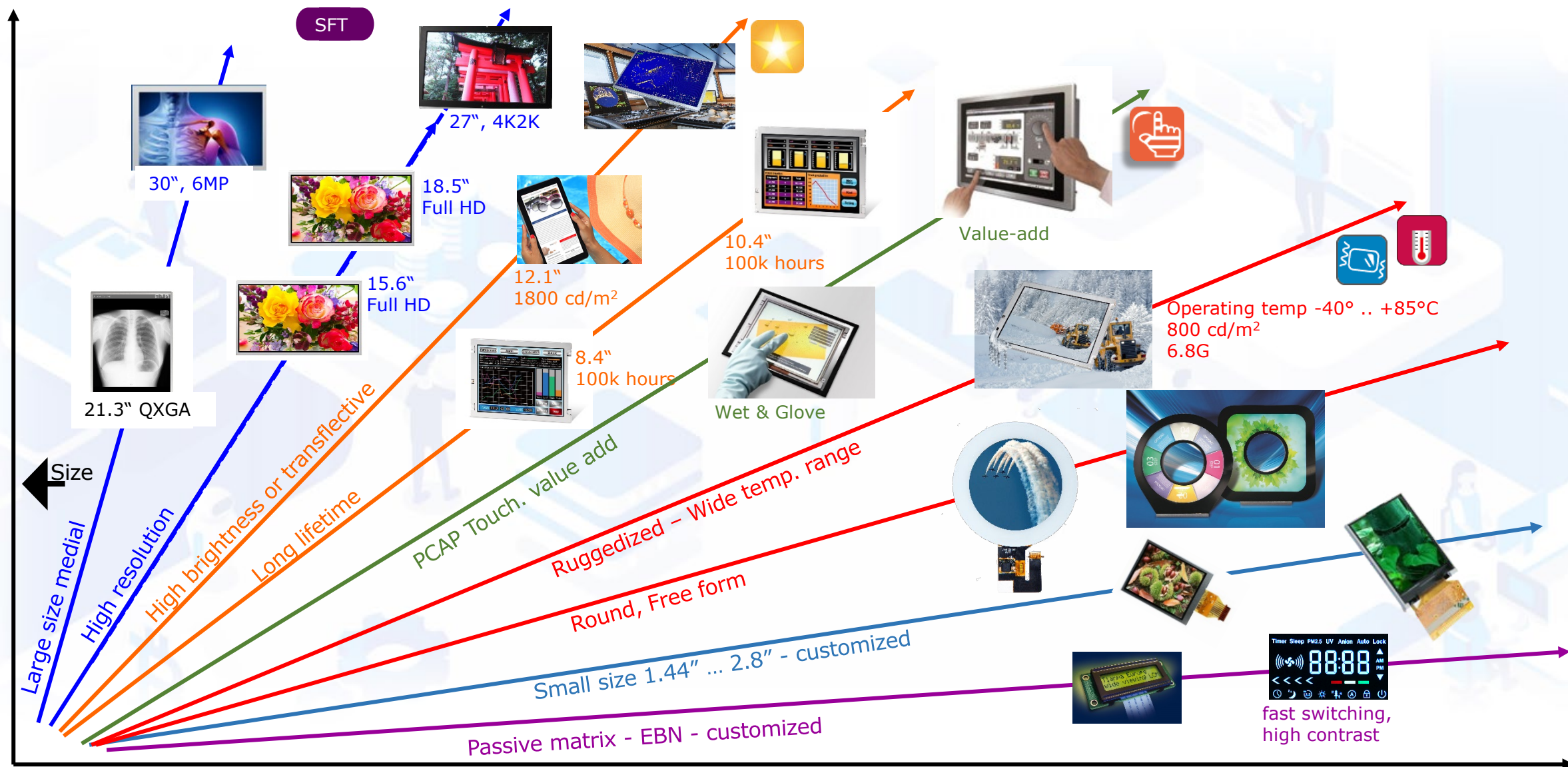
Response time<100ms

Transparent display



Transmission: 20%

Roadmap for Industrial and Medical market



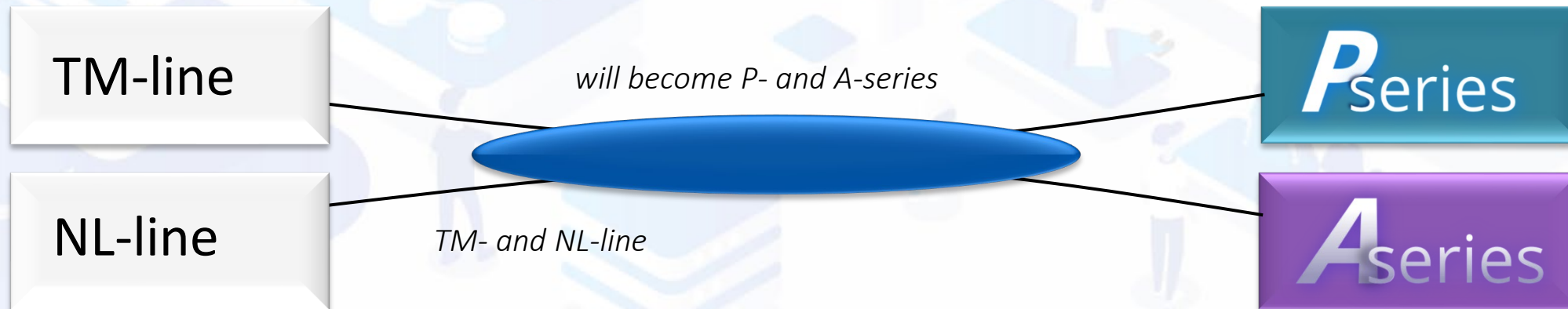
TM- and NL-lines are merging into P- and A-series

TM-line:

Originating from Tianma China, since 1983

NL-line:

Originating from Tianma Japan (NEC LCD Technologies until 2011)



P-series:

Professional series

For industrial and medical display markets. Typical sizes 3.5" to 30".

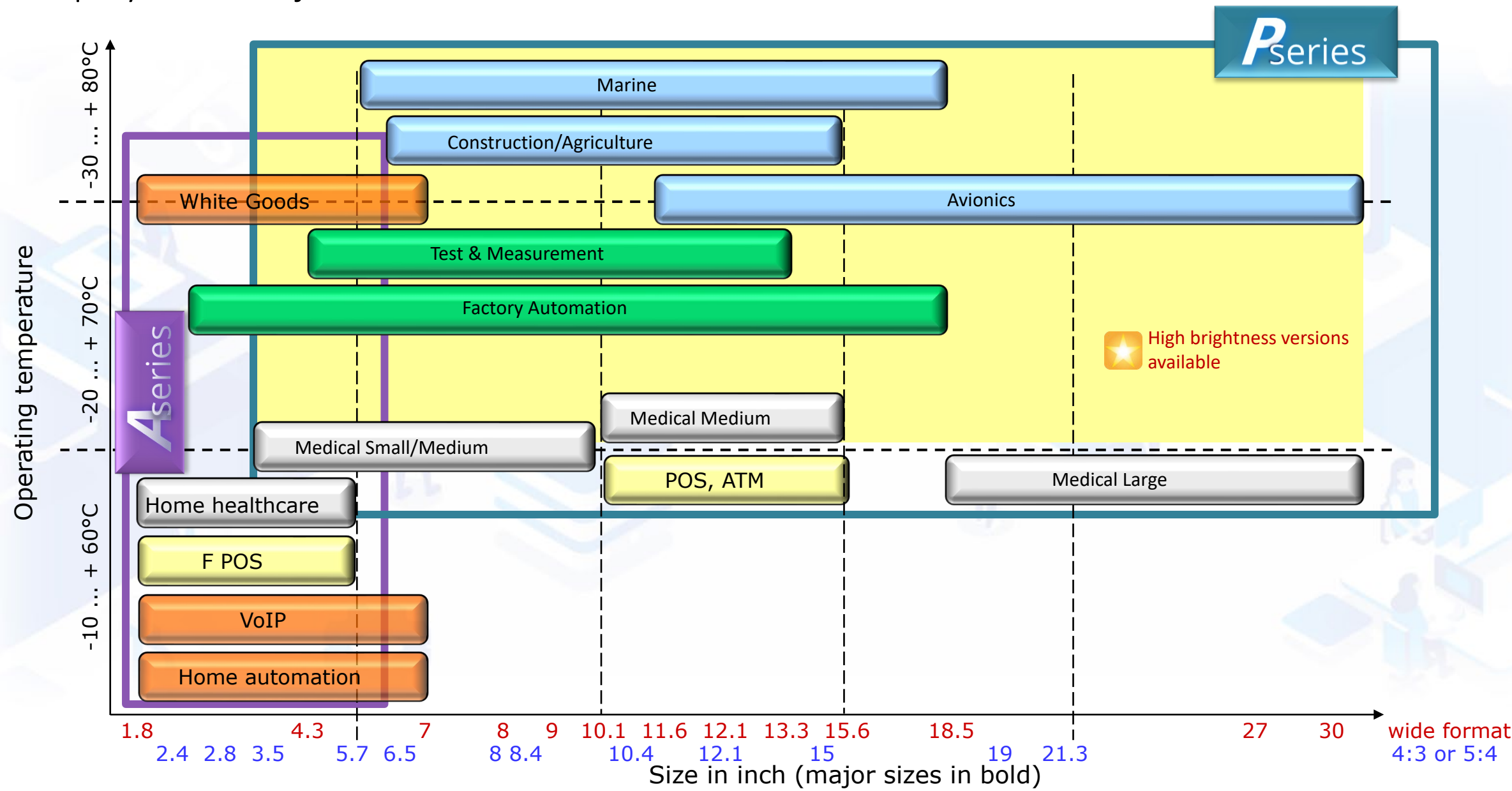
A-series (coming end of 2021)

AIoT series¹⁾

For personal and commercial applications. Typical sizes 1.6" to 5.5".

¹⁾ AIoT: Artificial Intelligence of Things

Displays and major markets



Typical industrial markets by product series

Pseries

Market

Industrial
&
Medical

Market segment

Features



Medical
large



Medical
medium



Avionics/
Marine



POS/
Kiosk



ATM



HMI



Rugged PC



Construct-
ion



2 Wheel

- Standard sizes
- Stable supply
- Small MOQ
- High performance
- High quality

Aseries

Personal
&
Commercial



Medical
small



Industrial
mobile



F-POS



VoIP



Smart home



MFP



ESL



DSC

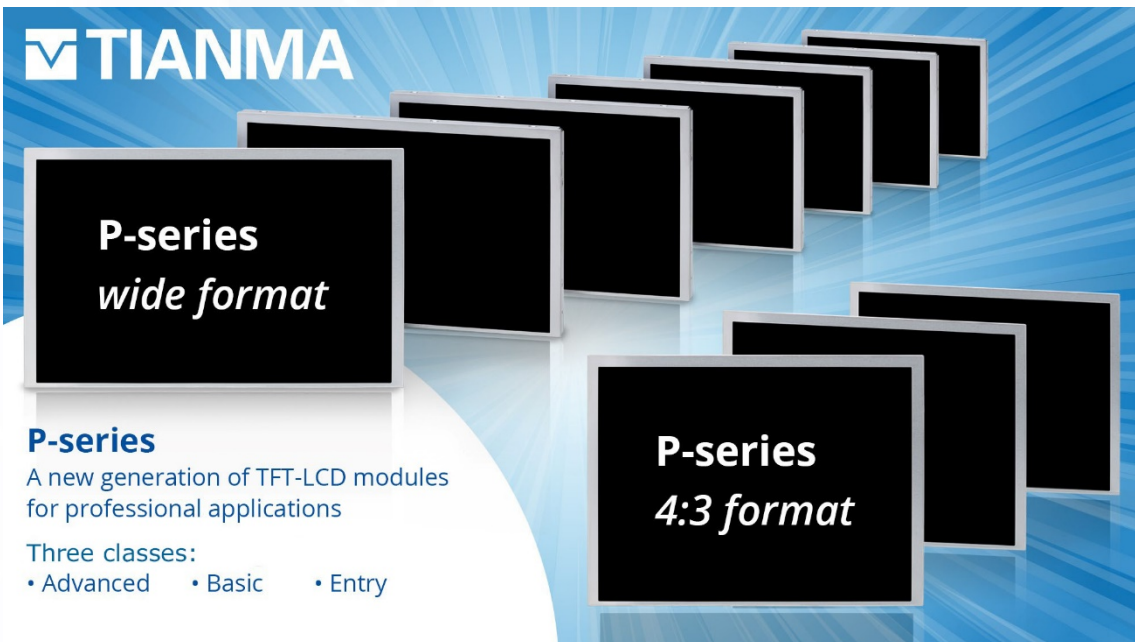


White goods

- Customization (strip, round, bar, square, ...)
- LTPS/AMOLED
- MOQ
- TFP/MCU
- High quality

P-series – Three classes

Combining technical and support features from NL-line with the more competitive prices from TM-line



The P-series display products will be available with **three classes**:

- **Advanced:**
 - Excellent picture quality (e.g. high pixel density, ultra-wide viewing angle, high contrast ratio, wide colour gamut, excellent black level uniformity, etc....)
 - Long-life LED backlight
 - High brightness and/or wide temperature range (optional) (e.g. for outdoor applications)
 - Ruggedized (optional) (e.g. specified with high shock and vibration conditions)
- **Basic:**
 - Meeting the standard specification and performance requirements of the market
 - Standard brightness and long-life LED backlight
 - Good performance/cost ratio
- **Entry:**
 - Providing cost effective solutions for the more price sensitive markets

Advanced Class

Typical applications:

Advanced Class

Aviation



Sunlight Readable



Anti-Vibration



Less Image Sticking



Long Life



Touch (Wet&Glove)

Marine



Construction



Diagnosis



Excellent Contrast & Uniformity

Basic and Entry Class

Typical applications:

Basic and Entry Class

Patient Monitor



Ultrasound



HMI



POS / ATM



Amusement



Standard & Entry Spec



Wide Range Line Up



Backward Compatible Design



Touch (Wet & Glove)

P-series – Common features

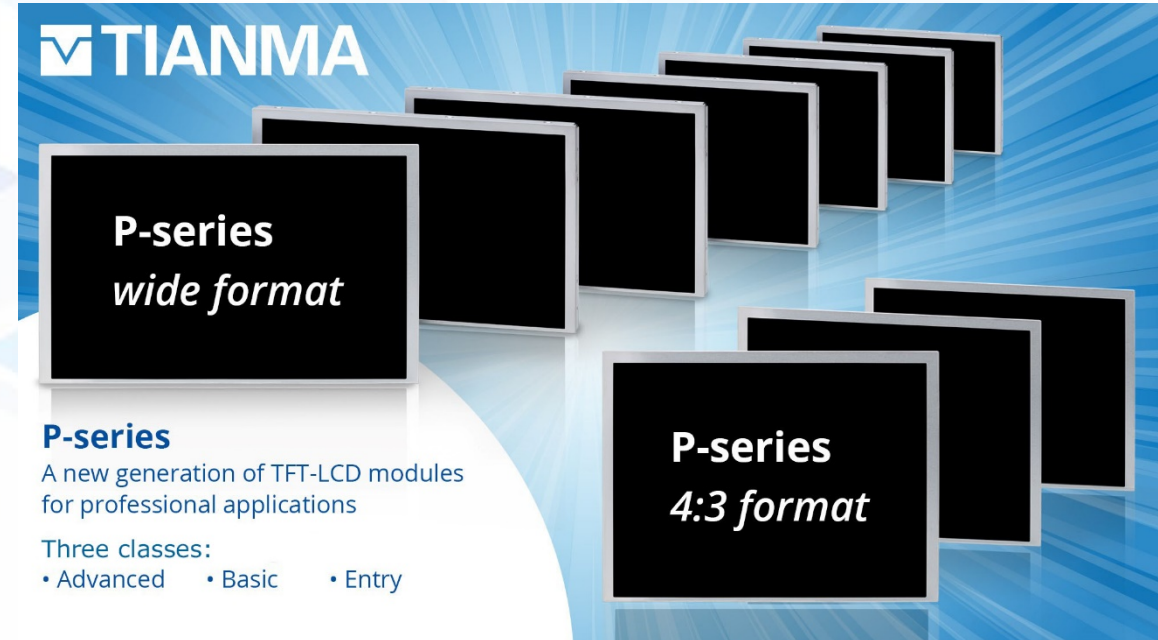
Common service features for all classes:

- Production availability for a minimum of 5 years, typically 7 years or more
- Small MOQ (Minimum Order Quantity), typically box level quantity
- Dedicated design rules to meet the requirements from professional market
- TFT-LCD, PCAP sensor and assembly are all done inhouse

Schedule:

First samples from the initial P-series available.

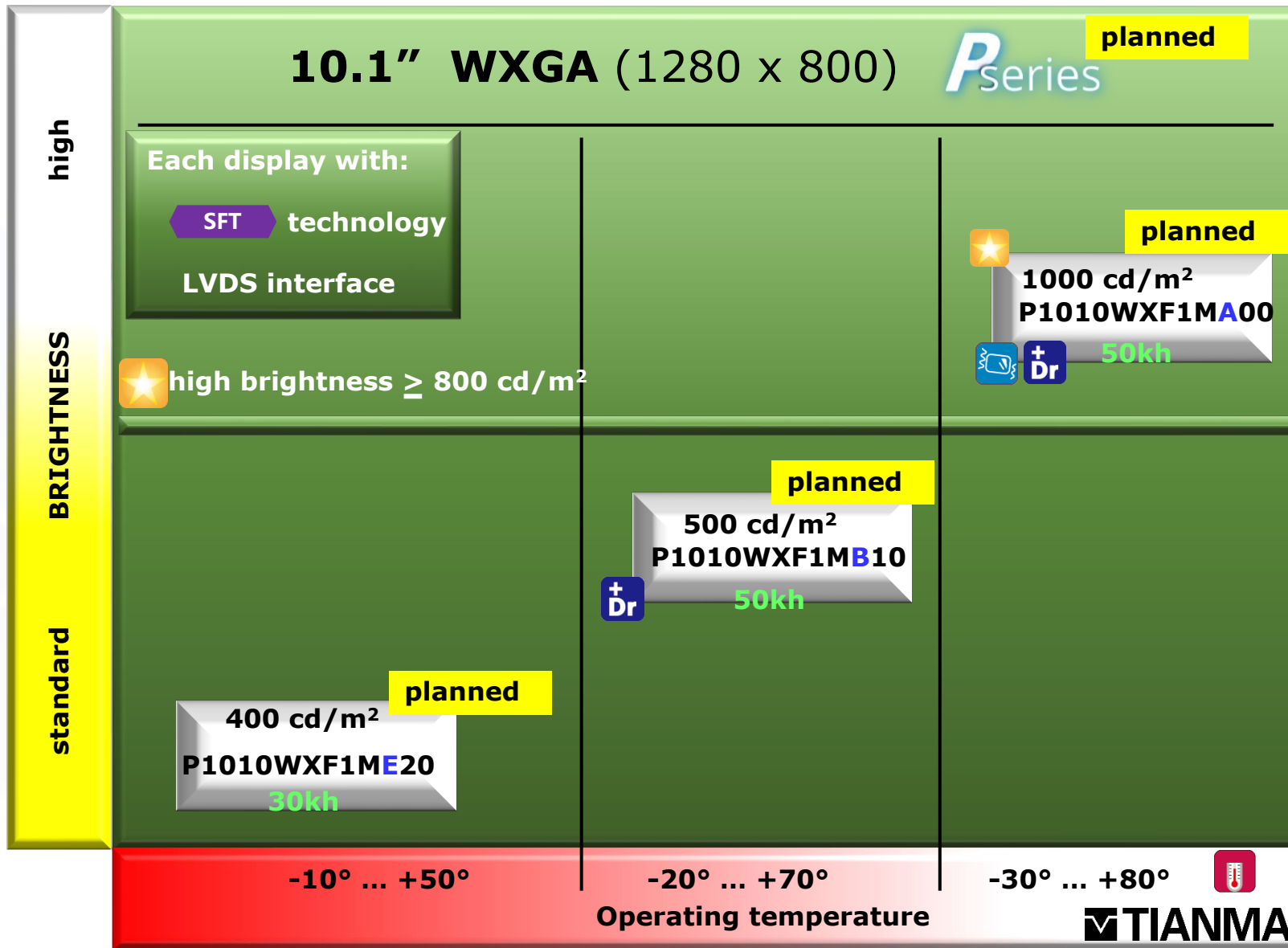
Tianma's legacy professional LCMs - including certain TM-series and all NL-series products - will be migrated into the new P-series product offering. All of these products will remain in production and will continue to be fully supported.



More info at:

<https://www.tianma.eu/news/p-series-tft-lcds/>

How to choose a certain display?



- Size and resolution

Normally several displays available with same size and resolution

Other important criteria to select a display are:

- Operating temperature range
- Brightness



- Viewing angle (→ SFT or TN)
- Surface treatment (clear, AG, AR)
- LED backlight lifetime



- Interface (RGB, LVDS, eDP)
- Backlight driver integrated



- Ruggedization required?



- with PCAP?
- Air gap or optical bonding
- Cover glass design
- Touch IC manufacturer
- ...



Advanced

Basic

Entry



ES1, August21
MP, Q1CY22

ES2, July21
MP, Q1CY22

ES2, July21
MP, Q1CY22

ES2, July21
MP, Q1CY22

ES2, August21
MP, Q1CY22

ES2, August21
MP, Q1CY22

ES1, August21
MP, Q1CY22

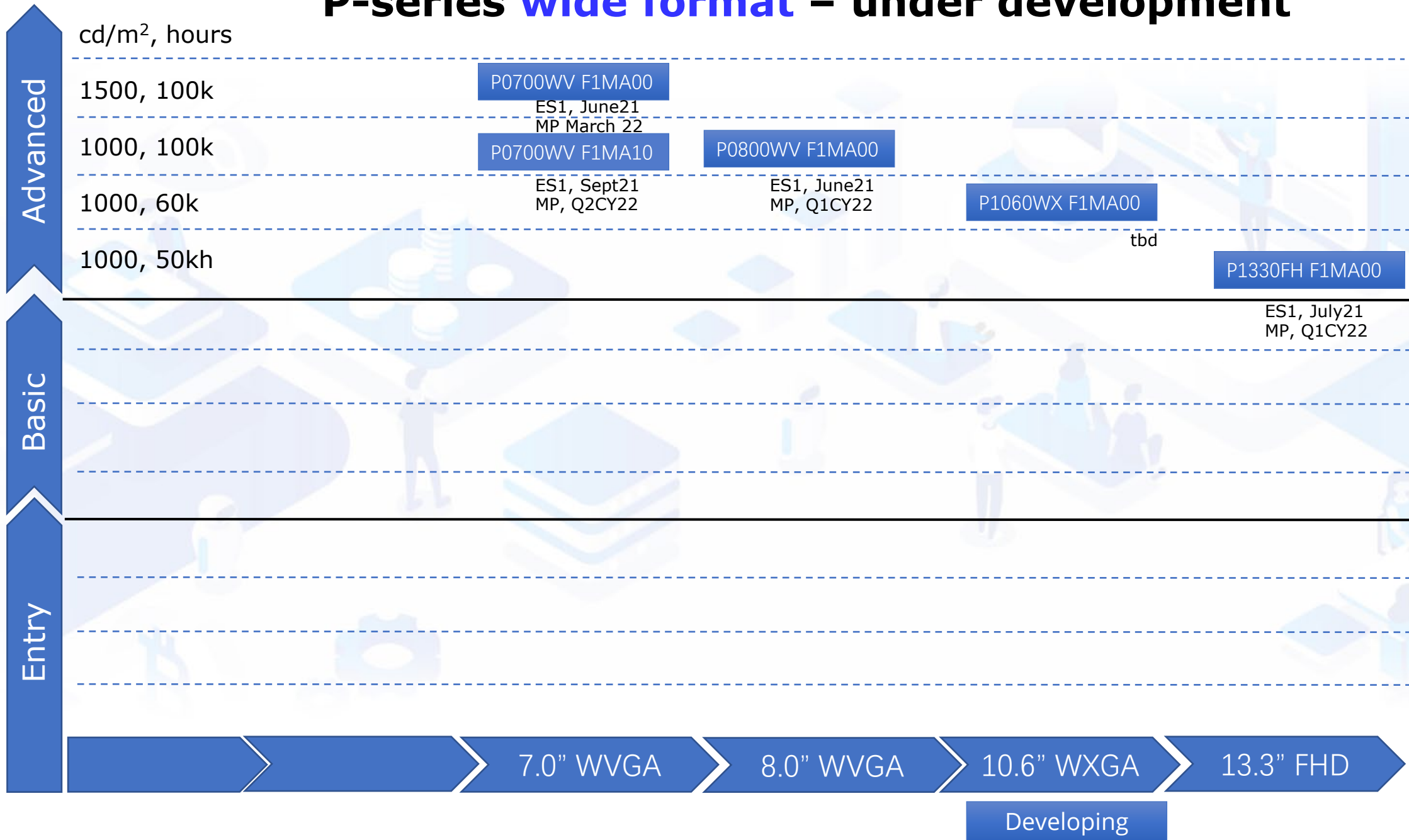
ES1, Sept21
MP : Q4CY22

P2130QX F1MA00

P2130UX F1MB01

21.3"
OXGA

P-series **wide format** – under development



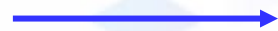
P-series at Tianma Europe homepage

Visit www.tianma.eu
and go to products section:

<https://www.tianma.eu/products/category/without-touch/>

Enter at least 2 digits from part number
in the search field

E.g. entering “P1” will show all displays from P-series
with size between 10” and 19.99”



PRODUCTS WITHOUT TOUCH

Reset Comparison

View Comparison

Panel Size (inch)
Any +

Resolution
Any +

Luminance (cd/m²)
Any +

Operating Temperature (°C)
Any +

Search
P1

Reset all values

Part number	Compare
P1040XGF1MA00 under development	
Size (inch)	10.4"
Resolution	1024 x 768 XGA
Technology	SFT
Viewing Angle (°)	88, 88, 88, 88
Luminance (cd/m ²)	1300
Contrast Ratio	1000:1
Colour Gamut	50%
Surface	AG
Resp. Time (ms)	25

Part number	Compare
P1060WXF1MA00 under development	
Size (inch)	10.6"
Resolution	1280 x 768 WXGA
Technology	SFT
Viewing Angle (°)	88, 88, 88, 88
Luminance (cd/m ²)	1000
Contrast Ratio	1000:1
Colour Gamut	50%
Surface	clear
Resp. Time (ms)	25

Part number	Compare
P1210XGF1MA00 under development	
Size (inch)	12.1"
Resolution	1024 x 768 XGA
Technology	SFT
Viewing Angle (°)	88, 88, 88, 88
Luminance (cd/m ²)	1300
Contrast Ratio	1000:1
Colour Gamut	72%
Surface	clear
Resp. Time (ms)	25

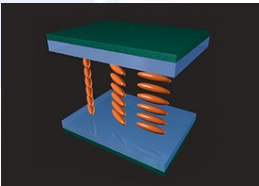
Part number	Compare
P121XGF1MB00 under development	
Size (inch)	12.1"
Resolution	1024 x 768 XGA
Technology	SFT
Viewing Angle (°)	88, 88, 88, 88
Luminance (cd/m ²)	500
Contrast Ratio	1000:1
Colour Gamut	72%
Surface	clear
Resp. Time (ms)	25

Tianma Europe homepage



Distributors

Technologies



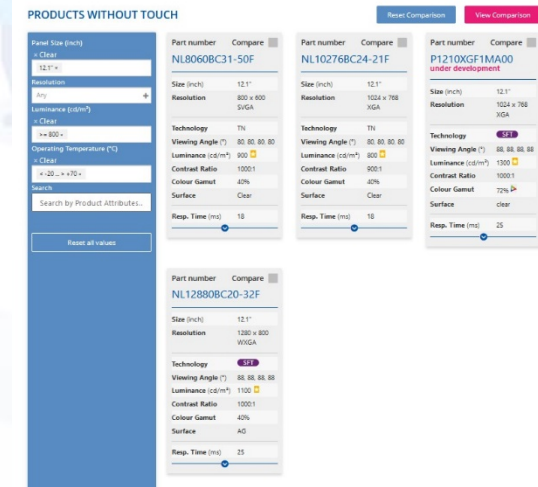
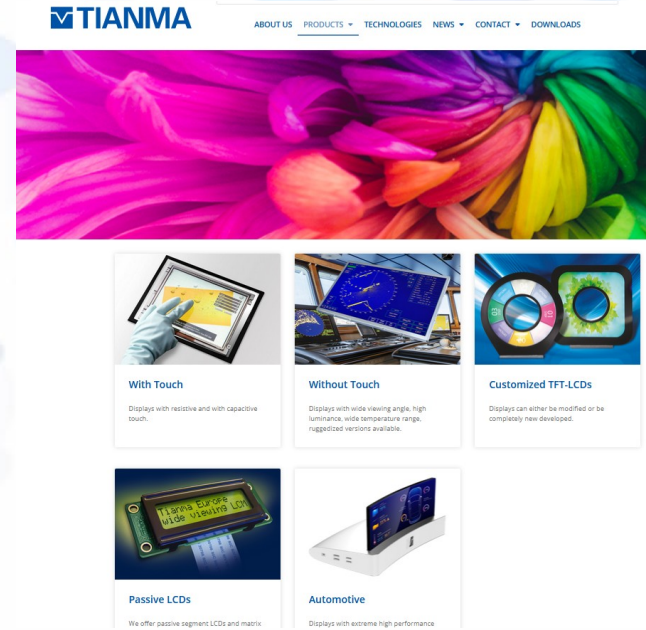
COUNTRY SELECTION

Austria
Belarus
Belgium
Bulgaria

Hungary
Ireland
Israel
Italy

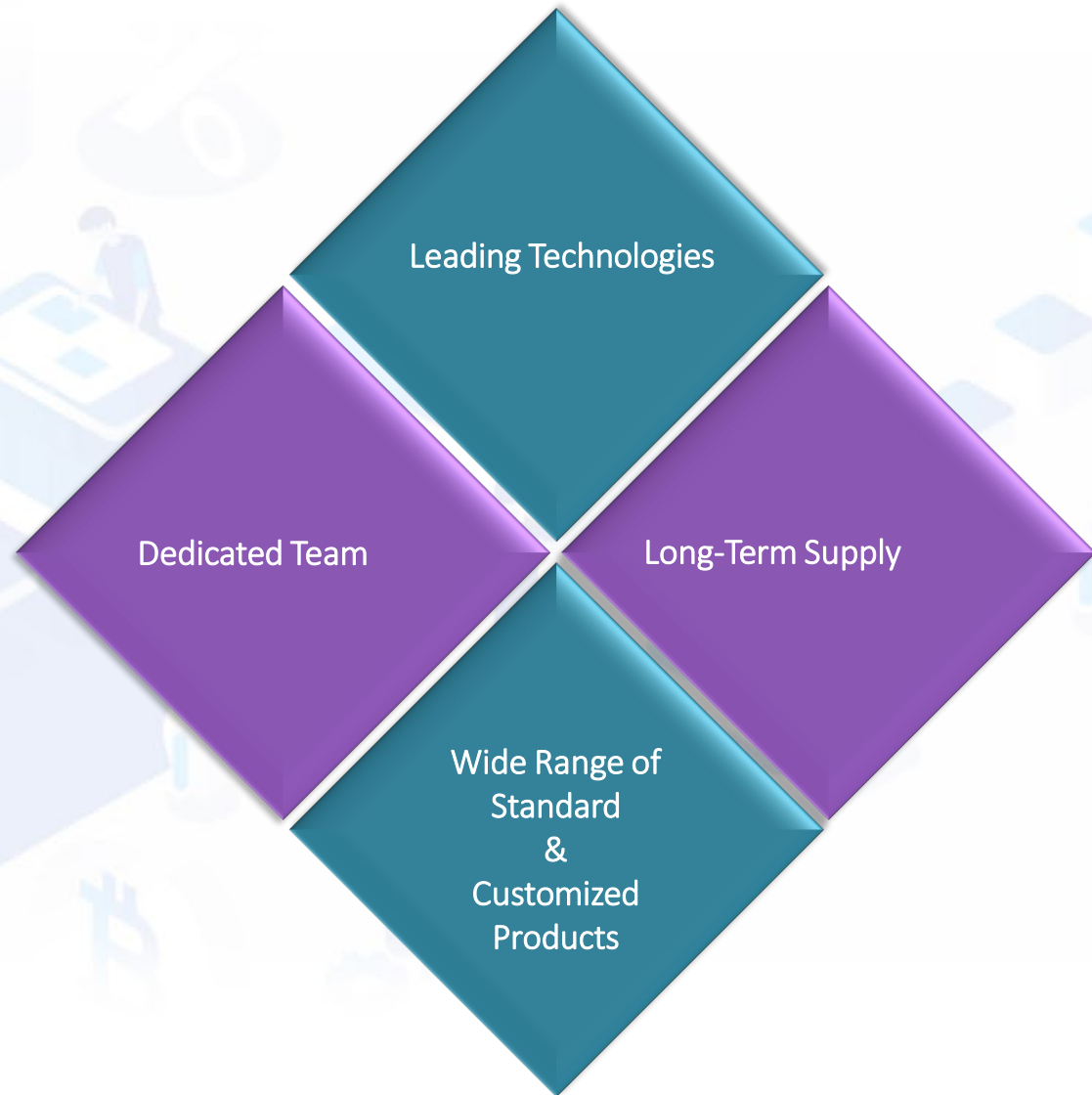
Russia
Serbia
Slovakia
Slovenia

Product overview and search by parameter, with and w/o touch



<https://www.tianma.eu>

Tianma - Your best partner



Dedication to small and medium size displays

- Own production lines for TFT-LCD and PCAP
- Full product range

30 years of experience

Specialized business unit for professional displays

Dedicated quality system

Global support

Continuous investment in R&D

The background features a light blue isometric illustration. It includes various business and technology-related elements: a person at a desk with a laptop, a person standing next to a large screen, a person at a desk with multiple monitors, a person standing next to a large screen, a person at a desk with a laptop, a person standing next to a large screen, a person at a desk with a laptop, a person standing next to a large screen, a person at a desk with a laptop, and a person standing next to a large screen.

THANK YOU !

For any questions,
feel free to contact us !

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