SPC-221
21'' all-around IP65 Core i Panel PC

Marco Zampolli

Europe Senior Product Sales Manager

What is Industrial HMI ?

A human-machine interface (HMI) is the user interface that connects an operator to the controller for an industrial system.

Simple Display Stage
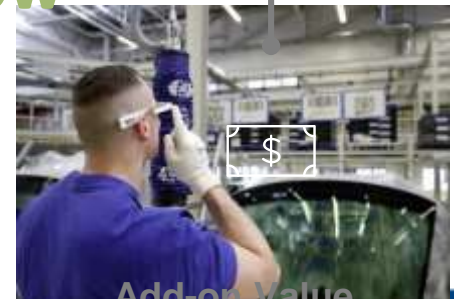
HMI-centric control

Before 90s

2007

Future

90s~00s

10s-now

Pure Control Stage

Touch Technology Raise

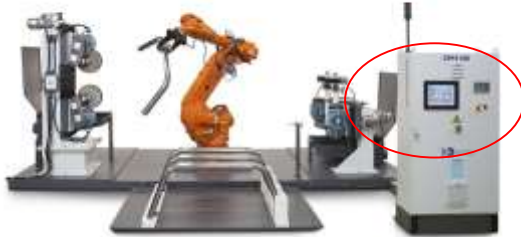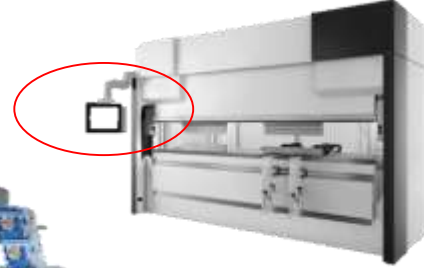**Add-on Value / Creation**

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What is Domain HMI ?

- "Domain HMI" is a relative term to "Traditional HMI"
- Domain means limitation, with entering threshold
- Start From features to Domain

HMI Evolution in terms of mounting

PAST | **FUTURE**

Traditional Panel Mount HMI :	**Out of the Cabinet HMI :**
• Chamber cut-out fixed due to HMI limitation	• Easily for SI to integrate in the machines
• Lack of flexibility for ID and aesthetic action	• Easily settle in the process line

Have You Heard Complaint About

- Dust on front bezel

- Limit space to install keyboard & mouse

- Single touch is not enough

- Need bigger display to show more information

- Direct mount on arm

All around IP protection solution

SPC-1840WP
SPC-2140WP

AMD

IP65 all around IP66 in front

SPC-1881WP
SPC-221WP

(intel)

Haswell

IP69K

IPPC-5211WJ

(intel)

Celeron J1900

Market: General automation
Success in Automotive

Market: General automation
Success in machine for packaging

Market: F&B, Pharma

Machine builder : Ergonomy is becoming more and more important , this means panel must be adjustable by the operator there is a clear transition

Potential : constant monthly ordering

Process Automation: Ergonomy is becoming more and more important , this means panel must be adjustable by the operator there is a clear transition connections must be secured by any accidental disconnetion.

Potential : Big order based on projects

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Now You Won't hear Complaint About

Have You Heard Complaint About

- Dust on front bezel
- Limit space to install keyboard & mouse
- Single touch is not enough
- Need bigger display to show more information
- Direct mount on arm

All-around IP65

VESA mount

True Flat screen

Support 10 fingers mult-touch Screen

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Benefit of Domain HMI

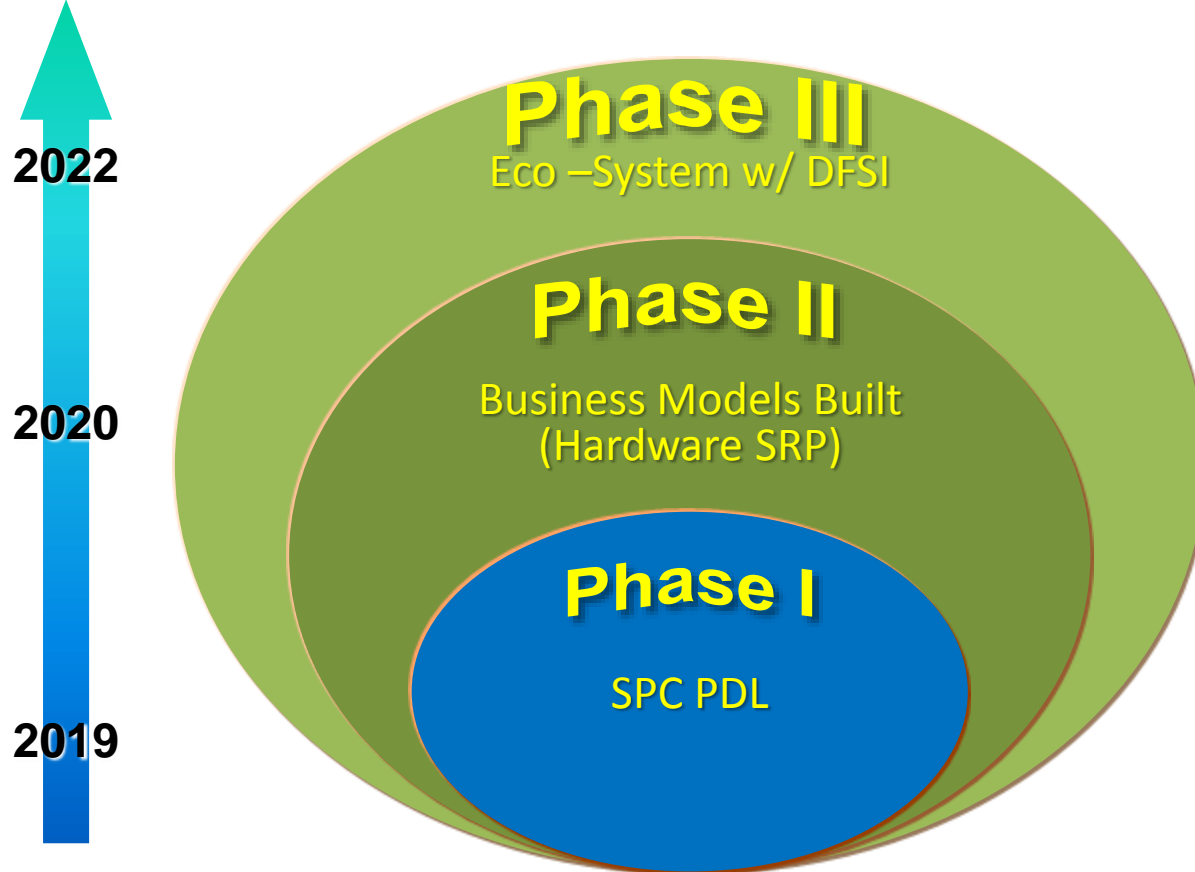| Existing Sector (Factory Automation)	New Opportunity in New Sector

• **New Field** :
   • Out-of-Cabinet Solutions
• **Ruggedized** :
   • Stainless Steel
   • Special Parts : Power / Touch
• **Device Integration** :
   • Tri-color LED, Barcode Scanner, NFC Card Reader
	• **Certification / Spec threshold**
	   • Oil & Gas
	   • Railway / Boat
	   • Power Station
	   • Vehicle
	• **Domain Know-How w/ SI, Selected Sales, BDM**
	   • High customization possibility
	   • New technology adopted (DTOS / PAPS /)

Three Phases Toward Success

2022

2020

2019

Phase III
Eco –System w/ DFSI

Phase II
Business Models Built
(Hardware SRP)

Phase I
SPC PDL

DFSI Eco-System

- DFSI : knowledge and channel system provided

- Become a player in selected industry (Eco-System)

Business Models Built

- Know-how guy in regionally

- Hardware SRP Provider (target SI)

Domain HMI STANDARD

- **SPC-800 :** Standalone HMI
- **SPC-500 :** Stainless Steel HMI
- **SPC-200 :** Encapsulated Contro HMI

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Domain HMI Product Portfolio & Development Path

Co-Creation w/ DFSI

Domain HMI

Industrial HMI

Data Visualization Solution Provider	Industrial Equipment Manufacturer

Encapsulated Control Panel	Standalone HMI	Stainless Steel HMI

Panel PC	Operator Panel	Control Panel	Thin Client	Industrial Monitor

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Domain HMI Product Portfolio

Performance/Cost →

Tier1 Market
All-Around HMI with knowhow

Tier2 Market
Flexible Operation

Tier3 Market
Process Visualization

Hygienic Design
Stainless Steel HMI
- IPPC-5211WS
- FPM-8151H
- **New SPC-515**

Real-time Operation
PushAccess HMI
- Operator Control & Monitor System
- Automotive

Domain Sustention
Standalone HMI
- New **SPC-800** Series

Process Visualization
General-MES HMI
- MES-1551N
- TPC-8151W
- TPC-8191W

Flexible Extension
Modularized HMI
- TPC-2000
- TPC-5000
- FPM-7002

Machine-level Visualization
Encapsulated Controller HMI
- SPC-1881WP
- **SPC-221**

Out-of-cabinet HMI Application Availability →

iKey
iLink
iDoor

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Domain HMI Offering - 2019

	Encapsulated Controller HMI	Stainless Steel	Standalone TPC
	SPC-200	SPC-500	SPC-800
12W			
15"		FPM-8151H	
15W		SPC-515 (Q3 2019)	SPC-815 (Q4 2019)
18W	SPC-218		
19W			
21W	SPC-221	IPPC-5211WS	SPC-821 (Q4 2019)
24W			

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Stationary & Standalone HMI Naming Rule

$$\text{SPC-}X_1X_2X_3\text{- }Y_1Y_2Y_3Y_4E$$

- X_1: Product Series
    - 2: General SPC (old SPC-1881/2140)
    - 5: Stainless Steel HMI (align w/ IPPC-5000)
    - 8: Standalone HMI
- $X_2 X_3$: LCD panel size
    - 15: 15" (4:3)
    - 16: 15.6" (16:9)
    - 18: 18.5"
    - 21: 21.5"
    - 24: 23.8"

- $Y_1 Y_2$: CPU
    - ATOM
      E1=E39 series(Apollo Lake)
      E2, E3….=Exx series
      (Predecessor of Apollo Lake,
      Atom D or N series follow same
      rules
    - Core i
      Gen. # + Intel® Core™ i3 (63)
      Gen. # + Intel® Core™ i7 (67)
- Y_3 : Memory Size
    - 1/2/3/4/5: 2GB/4GB/8GB/16GB
- Y_4 : Version
    - A~Z
- E: RoHS

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Successful Out-of-Cabinet HMI Case Globally

PACKSIZE

The packing machine builder which required a real-time operation with all-around protection.
Packing Industry
SPC-1881WP

BOBST

Data Visualization on the packing machines. To avoid penetration of dust and ID concern so encapsulated HMI needed
Packing Industry
SPC-2140WP

HKSCAN

The end-user is targeting a meat processing MES solutions and requesting a all-around panel PC with pole mount solution for easily cleanable
Food & Beverage Industry
IPPC-5211WS

aspen

The end-user requires a anti-radiation HMI for the pharma manufacturing production line
Pharmaceutical Industry
IPPC-5211WS

奥星
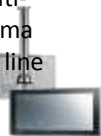
Standalone HMI as part of the package plant export solutions for MES display and data visualization
Pharmaceutical Indu
IPPC-5211WS

RECOGNITION ROBOTICS

Real-time vision controller of the robot arm for the car manufacturing machines.
Automotive Industry
SPC-1881WP

ambev

For the beer-filling production line data visualization and process optimization use
Food & Beverage Industry
IPPC-5211WS

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Encapsulated Control Panel (SPC-200)

Rugged design for the out-of-cabinet	Customized I/O	Powerful Platform
• All-Around IP66 Protection • VESA 75/100 supported	• Reliable M12 with flexible I/O selections • Can be implemented to standard I/O	• 6th Gen. Skylake i3/i5/i7 embedded CPU • Up to 16GB RAM • Intel LAN Chipset

All-Around protection with VESA mount can be fit into everywhere

Model Name:
SPC-221-633AE

Packing Machine

Heavy Machinery

Robotics

SPC-200 Introduction

All-around Die-casting IP66 with M12 connectors

SPC-200 Introduction

Mounting:
VESA mount

Storage:
1 x 2.5"HDD

I/O Interface:
1 x RS-232
1 x USB 2.0 Ports
2 x GbE LAN

Operating Temperature
0~55℃

Certification
EMI: CE, FCC Class A
Safety: UL, BSMI, CCC

- Wide screen 18.5" TFT LED LCD / 21.5" HD TFT LED LCD
- 6th Gen. Skylake Core i3/i5/i7
- **All around IP66 with waterproof M12 connector**
- PCT Multi-touch screen

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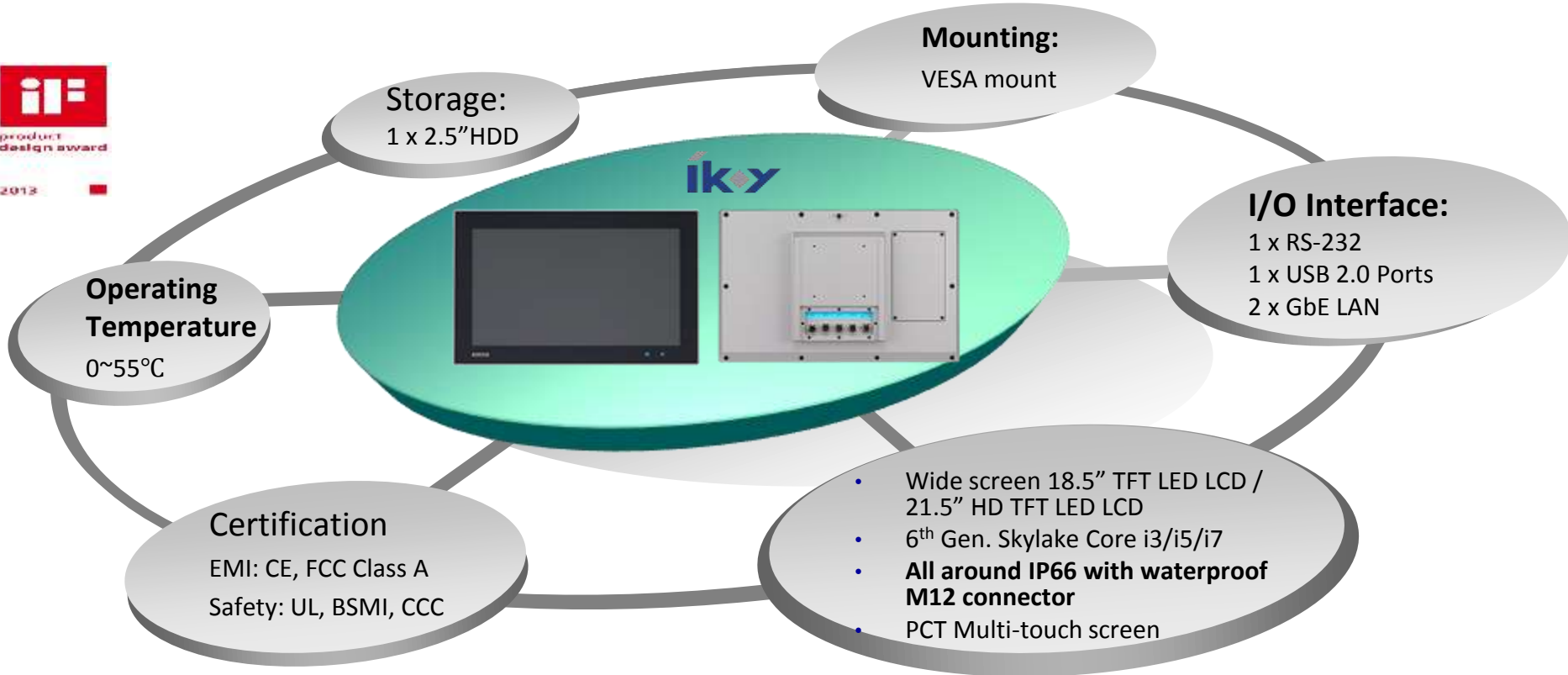
SPC-200 I/O Customization (project based)
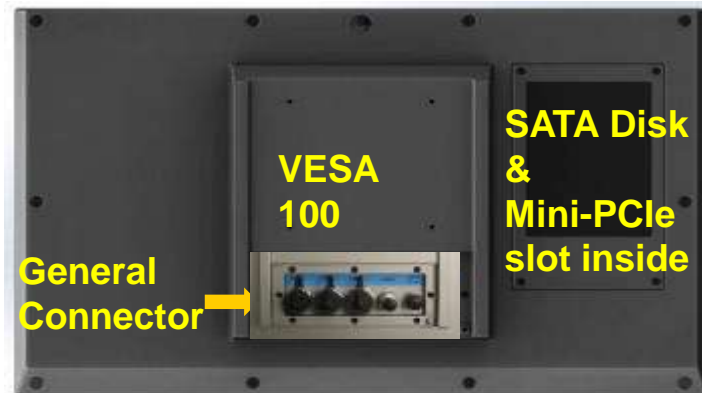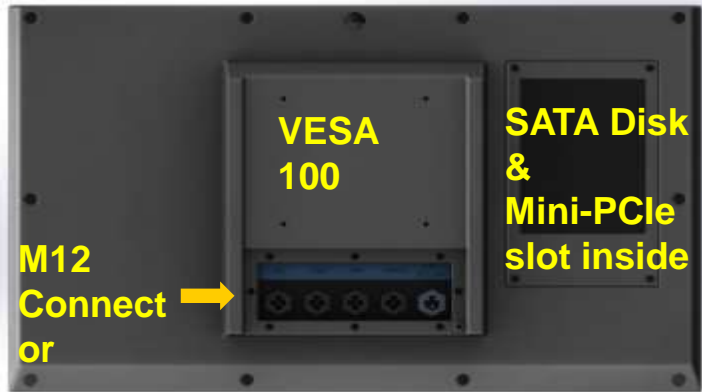
- Customization of changing M12 type connectors to general type connectors
- Customization of External I/O ports

	Standard	Max. Support
Ethernet	2	2
VGA output	0	1
HDMI output	0	1
USB	1	4
RS-232	1	3
RS232/422 /485	0	1

PS: Total number of I/O ports is limited by I/O area

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Domain Focus TPC Roadmap

Available   **Developing**   **Planning**

Encapsulated Control HMI

SPC-1881WP-433AE
SPC-18/2140WP-T3AE

- 18.5" /21.5" HD 300nits, PCAP TCH
- 4TH Gen. Core i3/i5/i7, T56N
- All around IP66 w/ M12 connectors
- Opt. regular I/O / M12

SPC-221

- 21.5" HD 300nits, PCAP TCH
- 6th Gen. Core i3/i5/i7
- All around IP66 design
- Opt. regular I/O / M12

Stainless Steel HMI

FPM-8151H-R3BE

- 15" industrial monitor
- Stainless Steel Front Bezel
- C1D2 Certified
- Resistive T/S with sealing

IPPC-5211WS-J3AE

- 21.5" FHD 300nits, Celeron J1900, PCAP TCH
- IP69K Rated Protection
- Optional Full Stainless Housing

SPC-515

- 15" 4:3 300nits, 6TH Gen i3 / i7 / Celeron , PCAP TCH
- All-Around 304L Stainless Steel Housing
- IP69k Rated Protection w/ VESA

2019 Q3

Released	2019 Q1	2019

Enabling an Intelligent Planet

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