



FCI Cable Assembly

BASICS Cable Assemblies Capability

Provide
connector maximum value
unequaled skills solutions
around Engineering optimized application
interconnect integrity collaborative
supply external
all market Regions leveraging
cable excellence include expertise
signal internal Assemblies Board
logistic world development
designed
I/O added
Manufacturing
knowledge management
Design power services
performance
Wire



FCI Cable Assembly



Contents

- FCI Group introduction

- Manufacturing Footprint

- FCI cable assembly products portfolio
 - Crimp to Wire
 - IDC
 - Input / Output

- FCI Manufacturing Capabilities

BASICS Cable Assemblies



Mission Statement

- To supply the market with cable solutions that include internal and external Wire to Board and Wire to Wire Assemblies designed and optimized for maximum **performance** and **value**.
- Provide value added solutions by leveraging our **connector development expertise**, interconnect application knowledge, signal and power integrity management, manufacturing excellence and logistic skills .
- Provide unequalled **collaborative** I/O Design, Engineering and Manufacturing services in all Regions around the world

FCI Cable Assy Manufacturing Footprint



- Nantong, China
(production and design)
- Bangalore, India
(production and design)
- Local partners,
Eastern Europe
(production only,
design supported
by FCI Besançon,
France)

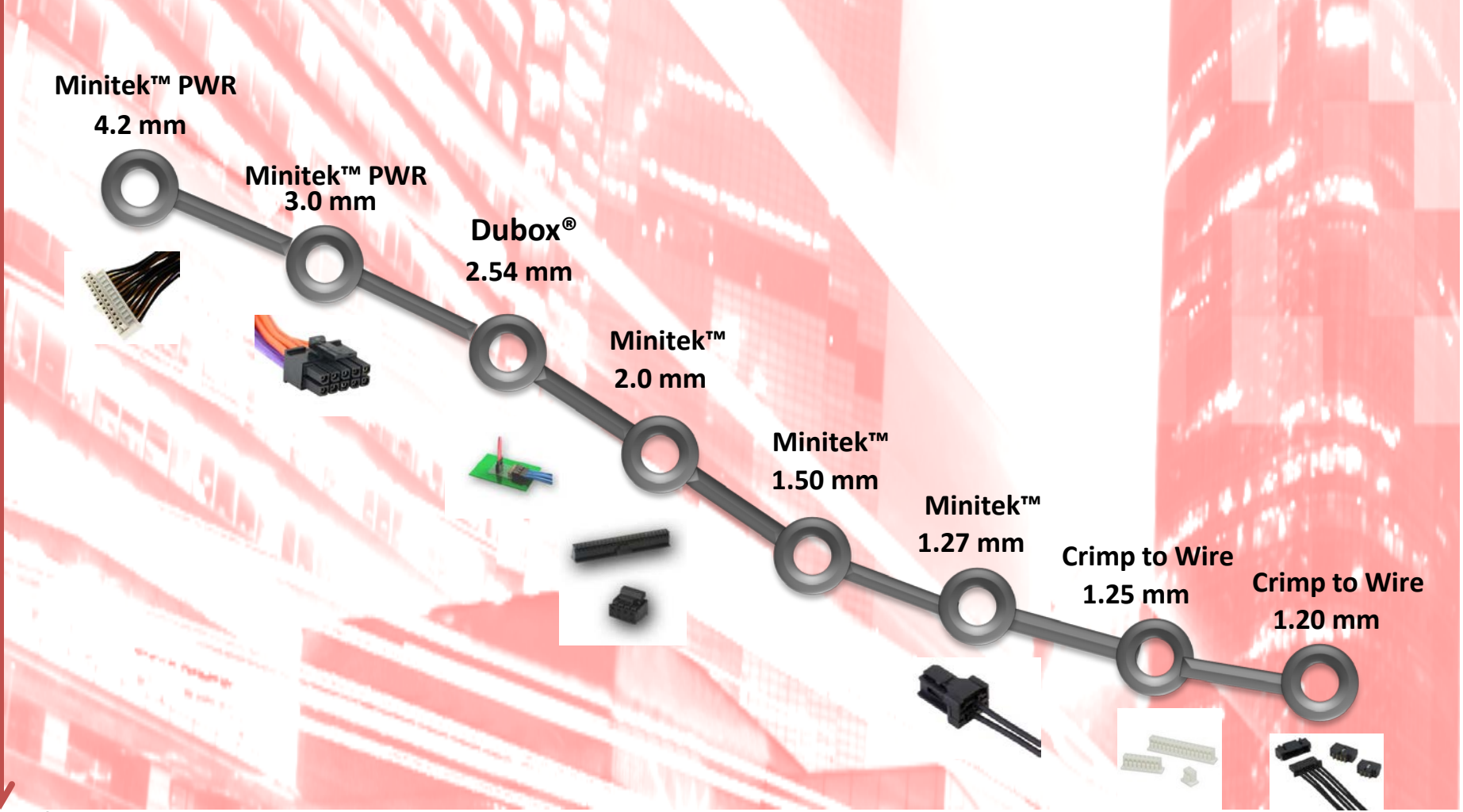


FCI Cable Assemblies Capability

BASICS Crimp to Wire Roadmap



Power



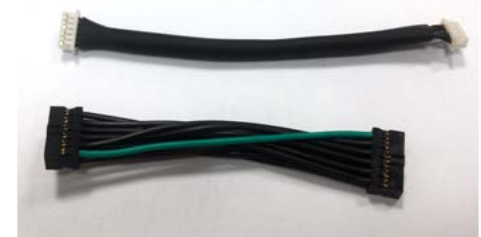
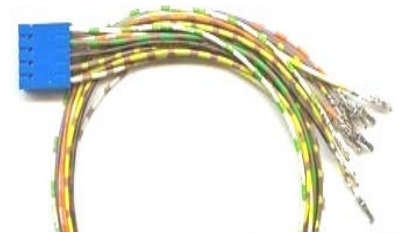
Signal

FCI Cable Assembly Product Portfolio



BASICS

- **Crimp-to-Wire** solution from 2.54mm to 1.20 mm pitch
 - 4.2mm and 3.0mm **Minitek Power**
 - Double row, 2 to 24 positions
 - Wire size from 16 to 28 AWG (4.2), from 20 to 30 AWG (3.0)
 - 2.54mm **Dubox** Crimp-to-wire connector
 - Single & Double row, 2 to 36 positions per row
 - Wire size from 20 to 30 AWG
 - 2.54mm **PV Superior Performance**
 - Single & Double row, 2 to 36 positions per row
 - Wire size from 20 to 30 AWG
 - 2.00mm **Minitek** Crimp-to-wire connector
 - Double row, 4 to 50 positions
 - Wire size from 26 to 30 AWG
 - 1.25mm **Crimp-to-wire** connector
 - Single row, 2 to 15 positions
 - Wire size from 28 to 32 AWG
 - 1.20mm **Crimp-to-wire** connector
 - Single row, 3,4 and 6 positions
 - Wire size from 28 to 32 AWG

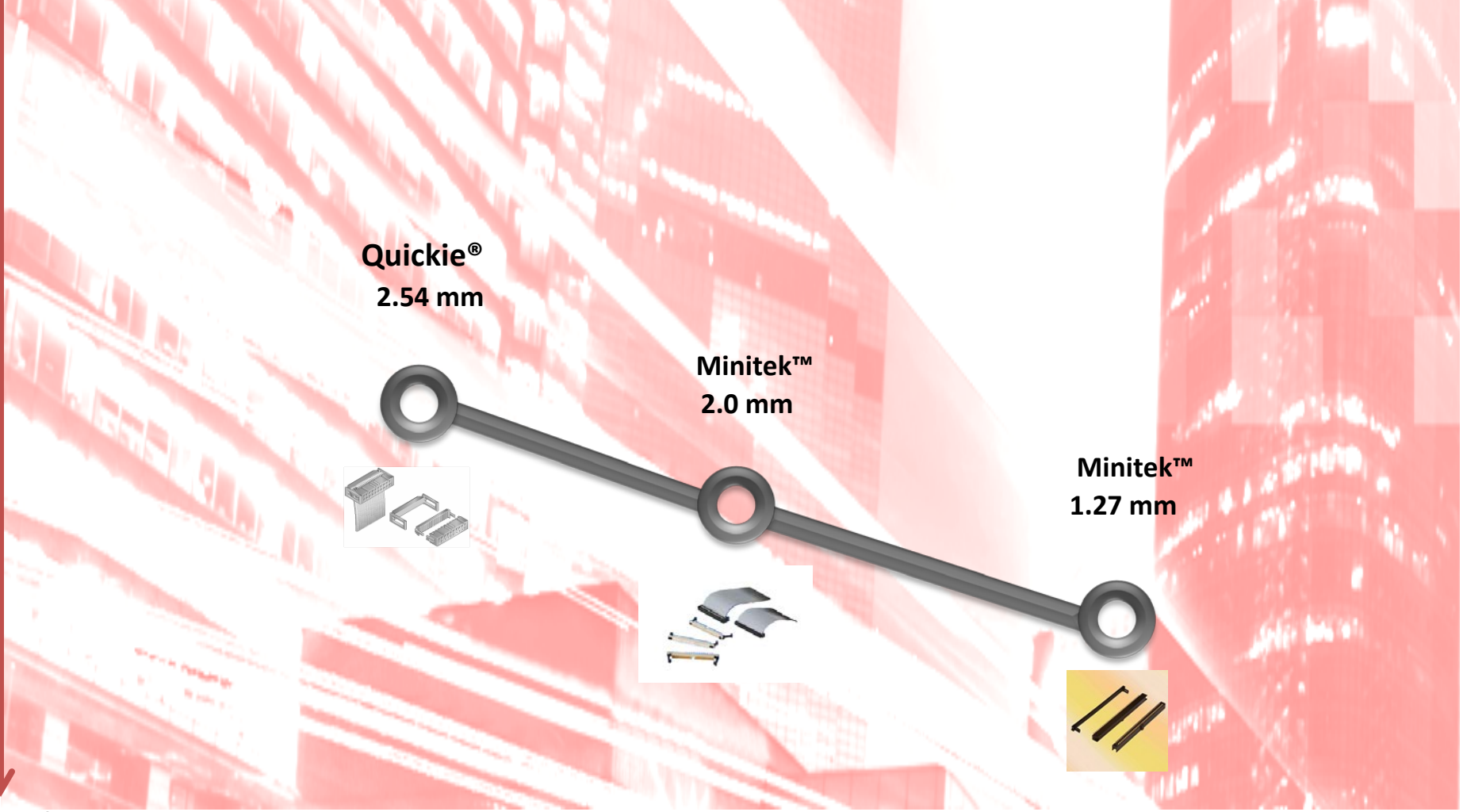


FCI Cable Assemblies Capability

BASICS IDC Roadmap



Power



Quickie®
2.54 mm



Minitek™
2.0 mm



Minitek™
1.27 mm



Signal

FCI Cable Assembly Product Portfolio



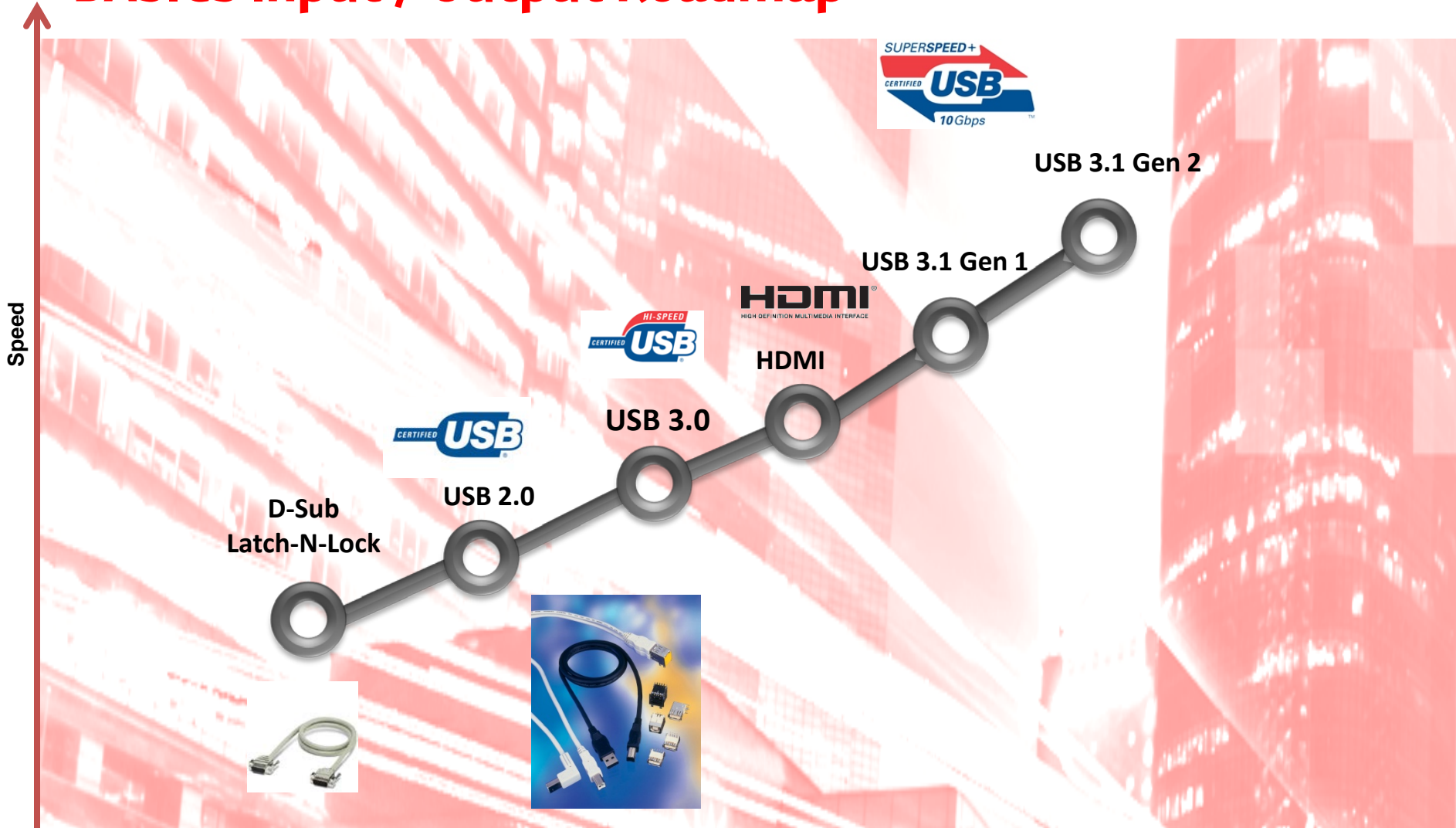
BASICS

- IDC Ribbon solution from 2.54mm to 1.27 mm pitch
 - 2.54mm pitch **Quickie** IDC connector
 - Double row, 4 to 64 positions
 - Strain relief option
 - 2.00mm pitch **Minitek** IDC connector
 - Double row, 6 to 50 position
 - Strain relief option
 - 1.27mm pitch **Minitek127** IDC connector
 - Double row, 6 to 26 position



FCI Cable Assemblies Capability

BASICS Input / Output Roadmap



FCI Cable Assembly Product Portfolio



BASICS

■ I/O solutions

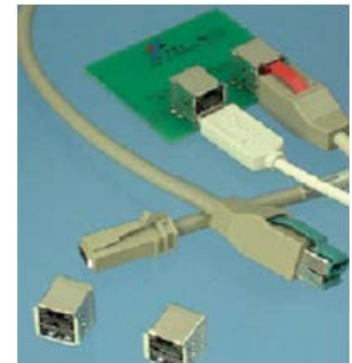
■ D SUB solutions with signal and power

- Standard signal, High density signal
- Power and Mix-Power
- And also hybrid customized solution



■ Latch-N-Lock / USB + power

- Standard USB plus power to LNL connector
- Used in POS, bar code scanners & industrial applications
- 1x8, 2x4 and 2x6 configurations on LNL end
- 12V and 24V versions available
- 20 and 28 AWG wires in a shielded raw cable
- RoHs compliant



■ Overmoulded I/O



FCI Cable Assemblies Solution Examples

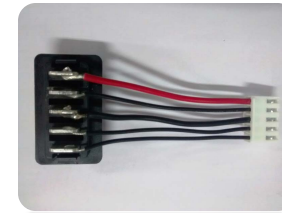
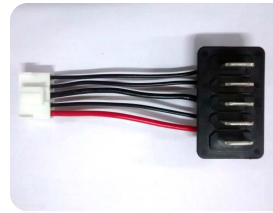


Application

Electrical
Power Tools



E-Bike



POS Machine



FCI Cable Assemblies Solution Examples



Application

PDU for Elevators



Keyboard Cables



Inverters Cables



FCI Cable Assemblies Solution Examples



Application

Medical



Locations :

- FCI Bangalore – India
- FCI Nantong – China
- Local Partner - Europe

FCI Bangalore – India



Key Facts

- Established in 1985
- 200+ employees
- 100% Cable production
- Product capability :
 - Copper Cable Termination
 - Soldering
 - Crimping
 - IDC
 - Wire Wrap
 - Overmoulding
- Total plant area
 - 760 sq mt (production)
 - 557 sp mt (land for expansion)
- ISO 9001, ISO 14001



FCI Nantong – China



Key Facts

- Established in 1995
- 1,207 employees
- 100% Cable production
- Product capability :
 - Copper Cable Termination
 - Soldering
 - Crimping
 - IDC
 - Overmoulding
- Total plant area
 - 24,457 sqmt
- ISO9001:2008, ISO14001:2004, TL9000:R5.0, TS16949: 2009



Local Partner – Europe (Hungary)



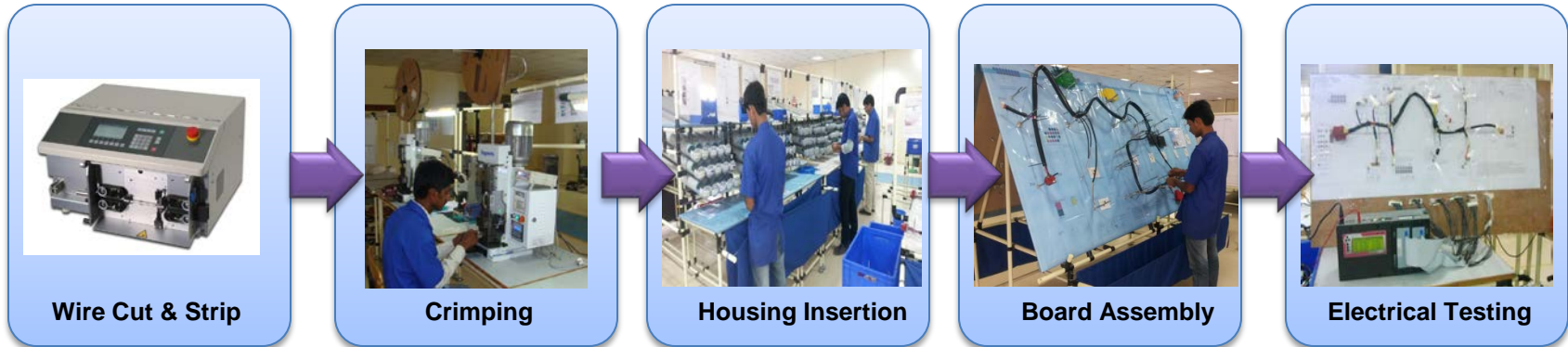
Key Facts

- Created in 1998
- 120 employees
- Production capabilities:
 - Cutting and crimping
 - Cable assembly
- Total plant area
 - 3000 sqm
- ISO9001

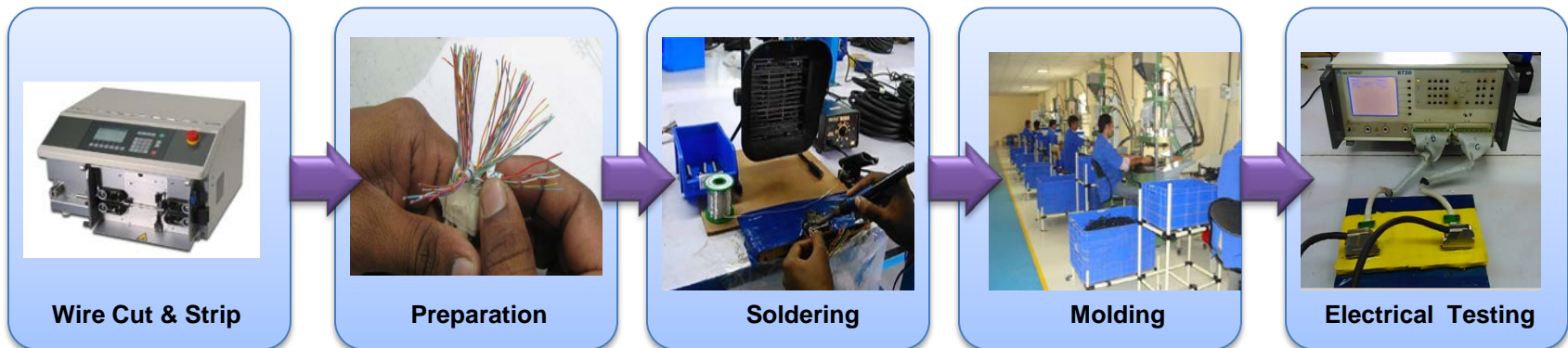


Site Processes

Internal Cable Assembly



External Cable Assembly Process



FCI Manufacturing capabilities



Multi wire cable



Automatic Cut & Strip Machine



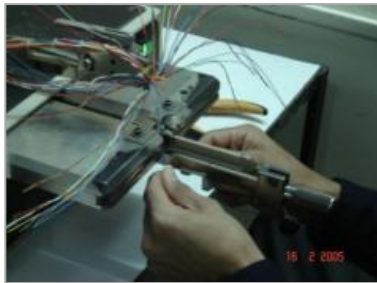
Cable Jacket Strip Machine



Crimping Machine – Higher Gauge



Crimping Machine – Lower Gauge



Automatic Crimping Machine



Automatic Cable Assembly Tester



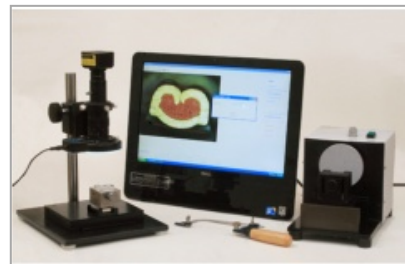
35T Molding Machine



Pull Force Tester



Crimp Force Monitor



Cross Section Analyzer

FCI Manufacturing capabilities

Multi wire cable



Wire cutting



Hot bar soldering



Peeling



Auto IDC



Laser beam cutting



Resistant spot welding

FCI Manufacturing capabilities

Multi wire cable



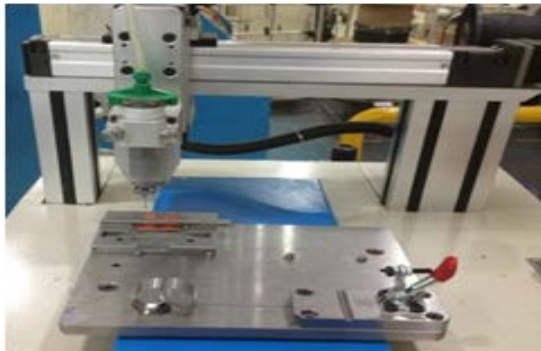
Low pressure molding



SR molding



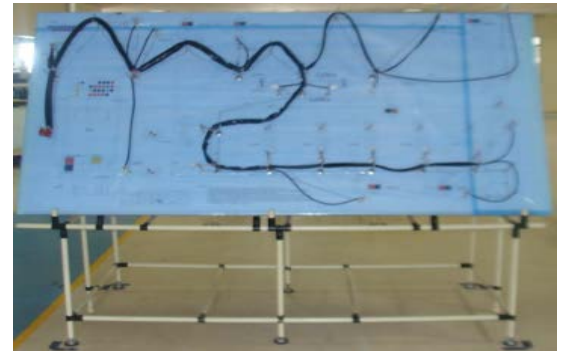
Visual soldering



Auto tin plating



Overmolding



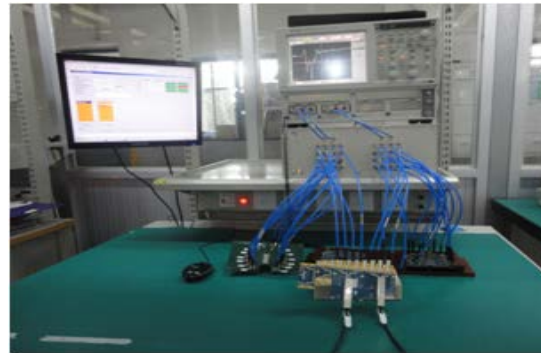
Harness assembly

FCI Manufacturing capabilities

Quality assurance – Tester



Cirris touch tester



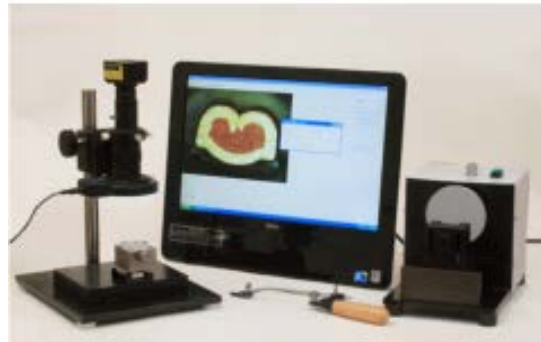
Auto SI test machine



Pull force tester



Bending tester



Cross section analyser



Crimp force controller

FCI Manufacturing capabilities

Lab measuring equipment



Precision network analyser



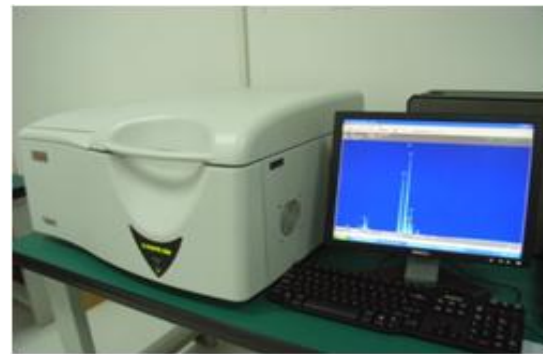
TDR & pattern generator



Optics measuring machine



Moisture analyser



Thermo Quant'X analyser



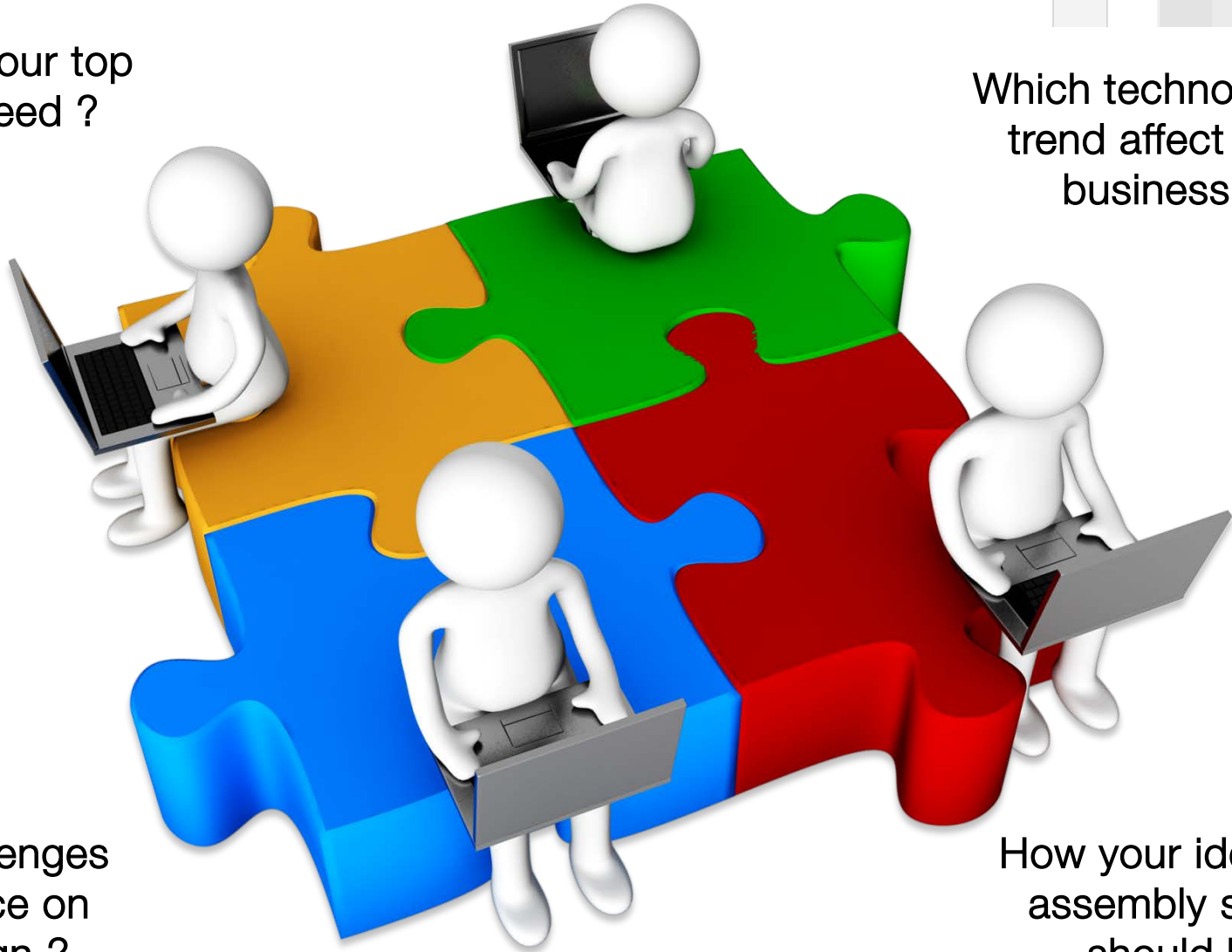
X-ray system

FCI Building the puzzle of Future



Which is your top unmet need ?

Which technological trend affect your business ?



Which challenges will you face on new design ?

How your ideal cable assembly supplier should be ?



THANK YOU

