TECHINT

Engineering & Construction

Milano, 31ST March, 2017

TECHINT GROUP
KEY FIGURES

TECHINT Engineering & Construction

2.6 billion USD
Backlog of orders

Tenaris

1.45 million metric tons
Shipments of seamless
and welded steel pipes

Ternium

9.4 million tons Shipments
of steel products
(Dec. 2014, not including pig iron)

tenova

1,2 billion USD
Backlog of orders

Tecpetrol

30 million bbl of
oil equivalent
Oil and gas production

HUMANITAS

~ 84.000 hospital
admissions

exiros

12,000+ active suppliers
630,000+ transactions
every year

- **Aggregate sales of the six main companies**: **Over 22 billon USD***
- **54,000 permanent employees***

**30 June 2015 data*

TECHINT E&C
SUMMARY

- We carry out **EPC projects** and engineering services, construction and EPCM
- We understand the needs of our industrial customers in the **oil & gas, power, mining, infrastructure and steel markets**, providing them with best-fit solutions
- Our organization adds value to our undertakings by drawing on both a **global vision** and a **local presence**
- We have a strong **commitment to the safety** of our people and to the **quality of the delivery**
- We are **part of a global group** of industrial companies

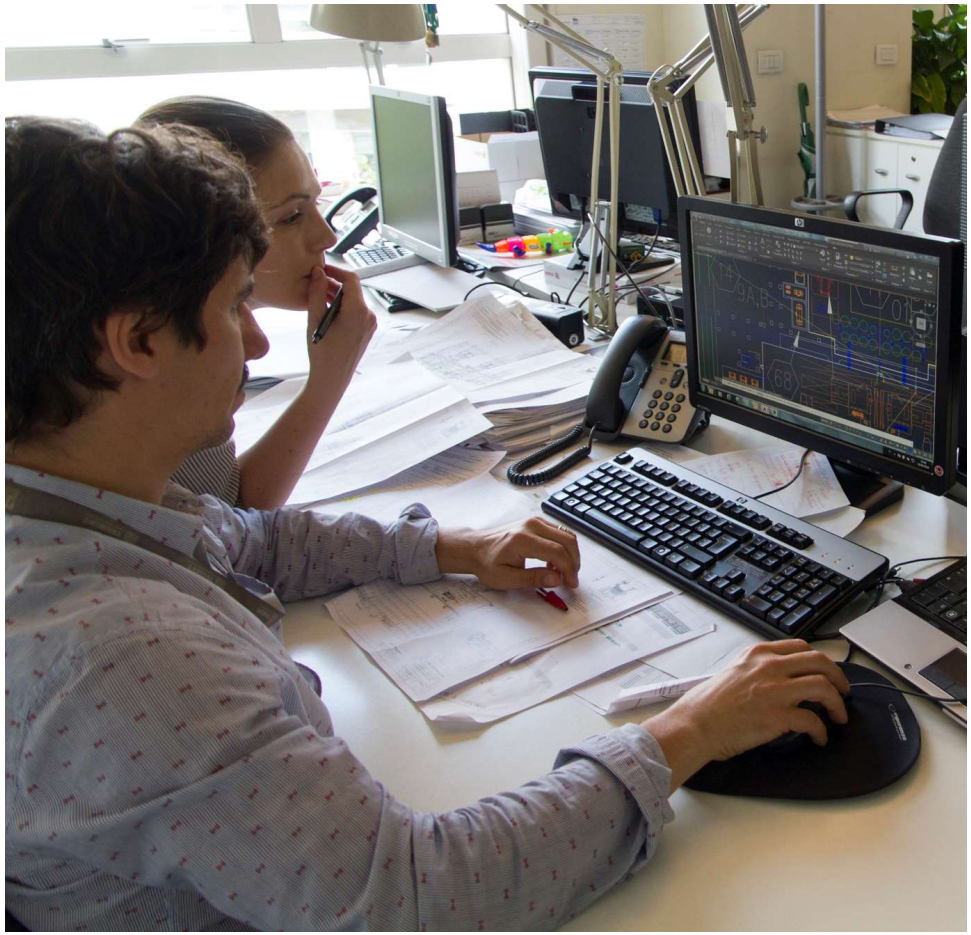
Los Ramones II Norte Gas Pipeline, Mexico

TECHINT E&C
ENGINEERING CENTERS

- Milan, **Italy**
- Buenos Aires, **Argentina**
- Mexico City, **Mexico**
- Mumbai, **India**
- **Experienced personnel** with **specific know-how** in different regional areas
- **Engineering project teams** manned with senior staff and young professionals
- **World class services** performed with common engineering standards and **management procedures**
- **Shared software licenses** and capability to integrate them, as well as lessons learned database

912 permanent employees*

1.8 million man-hours annual capacity*



Engineering Center in Milan, Italy

TECHINT E&C EMEA
MILAN ENGINEERING CENTER

OUR PLAN, YOUR PLANT

- Milan Engineering Center supplies **high-added-value services** offering solutions that best fit Client's requirements (**150** permanent employees)
- Highly **qualified engineering professionals**, more than 70% employees with university or postdoc. Degree
- Distinctive competences **Process Engineering** and **HSE engineering design**

Engineering Center in Milan, Italy

Engineering Disciplines

- Project Engineering
- Process
- HSE Engineering
- Commissioning
- Mechanical & Packages
- Static Equipment & Fired Heaters
- Civil & Structural
- Electrical
- Instrumentation & Control

TECHINT E&C EMEA
ACTIVITIES & SERVICES

TECHINT Engineering & Construction

- **Feasibility Studies** and Cost Estimating
- Conceptual Engineering and **Basic Design**
- Licensor Interfacing and Management
- **Risk Analysis**, **Environmental** and **Safety Studies**
- Front-End Engineering Design (**FEED**)
- Value Engineering
- Cost effective **Multidisciplinary Engineering**
- Project Engineering and Management Services (**PMT**)
- Debottlenecking and **Revamping Studies**
- Pre-commissioning, Commissioning and Start-up

C4 Isomerization Unit, Netherlands

CAMBIARE UN MODELLO DI BUSINESS A PARTIRE DALLE **COMPETENZE** **(Case History)**

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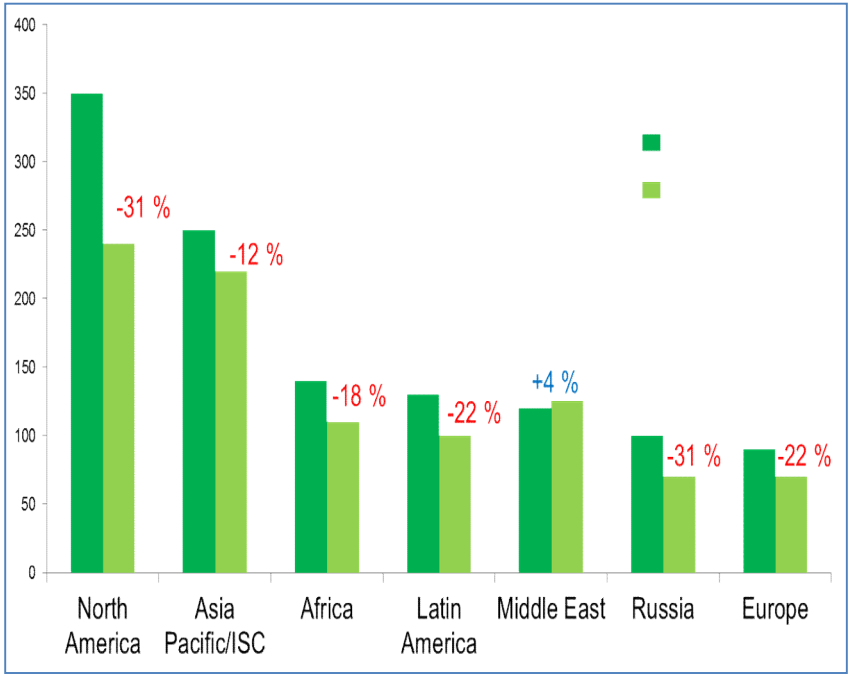
SCENARIO MACRO ECONOMICO (2015/2016)
Prezzo del Petrolio e calo degli investimenti

Crude Oil WTI (NYMEX) 2011-2016



Rallentamento investimenti settore Oil & Gas (Wood Mackenzie)

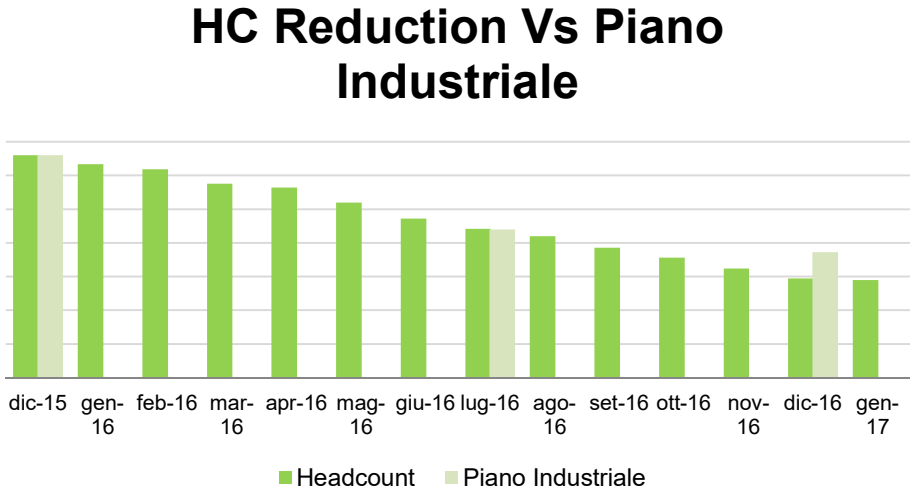
IMPATTI ECONOMICI E CONTRAZIONE DI MERCATO
Crisi e decisioni importanti

- Techint E&C EMEA operante in Europa, Africa e Medioriente subisce la congiuntura negativa di mercato.
- A dicembre 2015 il backlog aziendale mostra una riduzione del 30% rispetto allo stesso periodo del 2014, dovuta al completamento di progetti solo parzialmente sostituiti da nuove acquisizioni.
- Techint E&C decide di imprimere un cambiamento nell'identità e nel ruolo dell'area EMEA all'interno del gruppo e del mercato in cui opera.

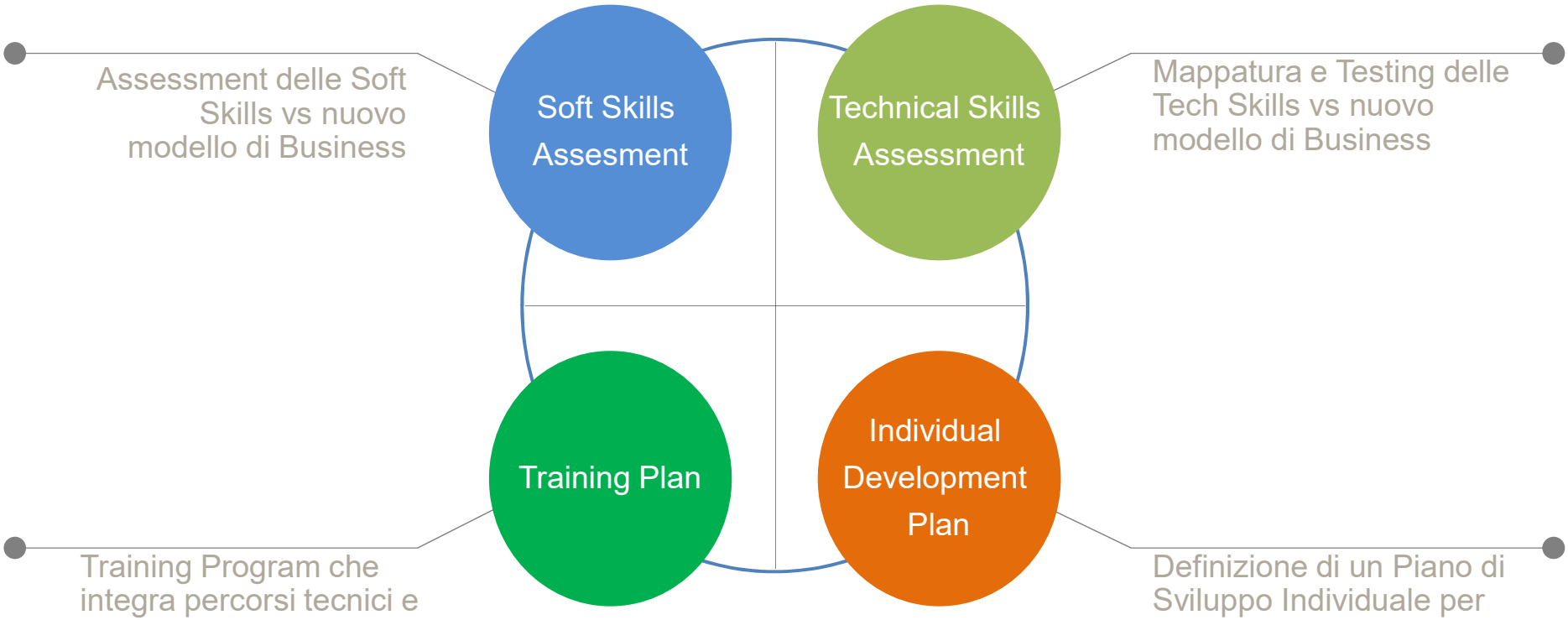
CAMBIAMENTO DEL MODELLO DI BUSINESS
Change Management Project 1) Restructuring

Per affrontare al meglio il cambio d'identità, Techint E&C affronta una completa revisione e riorganizzazione della società, diventa un centro di ingegneria avanzata, composto da un team di eccellenza in un mercato di servizi estremamente competitivo.

Indice riduzione costi staff Febbraio 2016 – Aprile 2017



CAMBIAMENTO DEL MODELLO DI BUSINESS
Change Management Project 2) Skills re-design

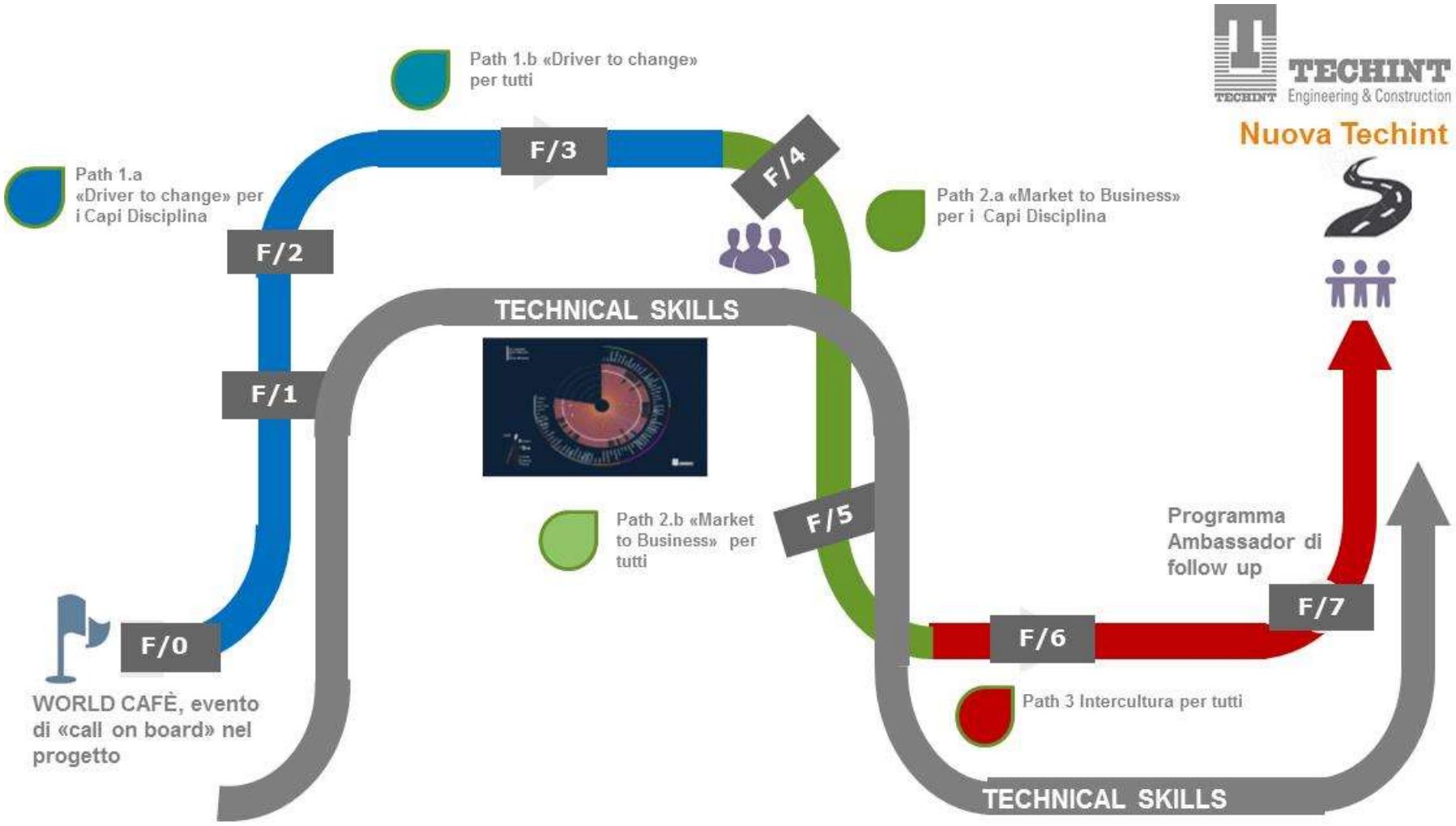


CAMBIAMENTO DEL MODELLO DI BUSINESS
Training Program

Il progetto **«Ride the change!»** si struttura **su 4 PATH tematici** che rispondono alle necessità principali di Techint:

- **Path 1 «Technical Training»** incentrato sullo sviluppo individuale delle *Cross Competence* tecniche e/o per Disciplina
- **Path 2 «Driver to change»** incentrato sulla Leadership, il Change Management ed Empowerment
- **Path 3 «Market to business»** incentrato sulla Consapevolezza del Mercato, Customer Orientation e Comunicazione
- **Path 4 «Interculturalità e Diversity»** incentrato sulle competenze di Intercultura e Diversity

CAMBIAMENTO DEL MODELLO DI BUSINESS
Training Workflow



CAMBIAMENTO DEL MODELLO DI BUSINESS
FOCUS SU TECHNICAL SKILLS

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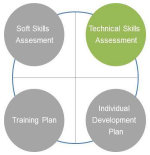

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FOCUS SU TECHNICAL SKILLS

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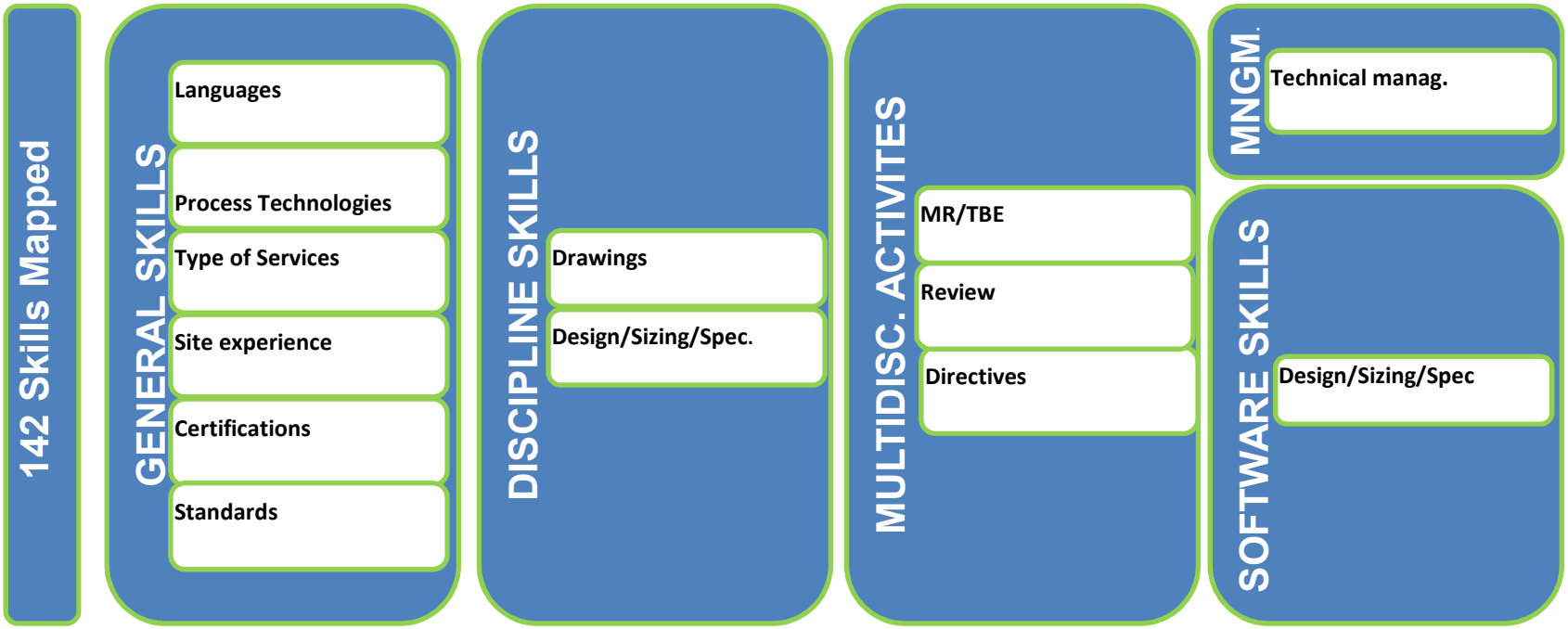
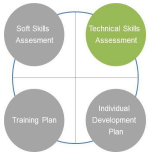
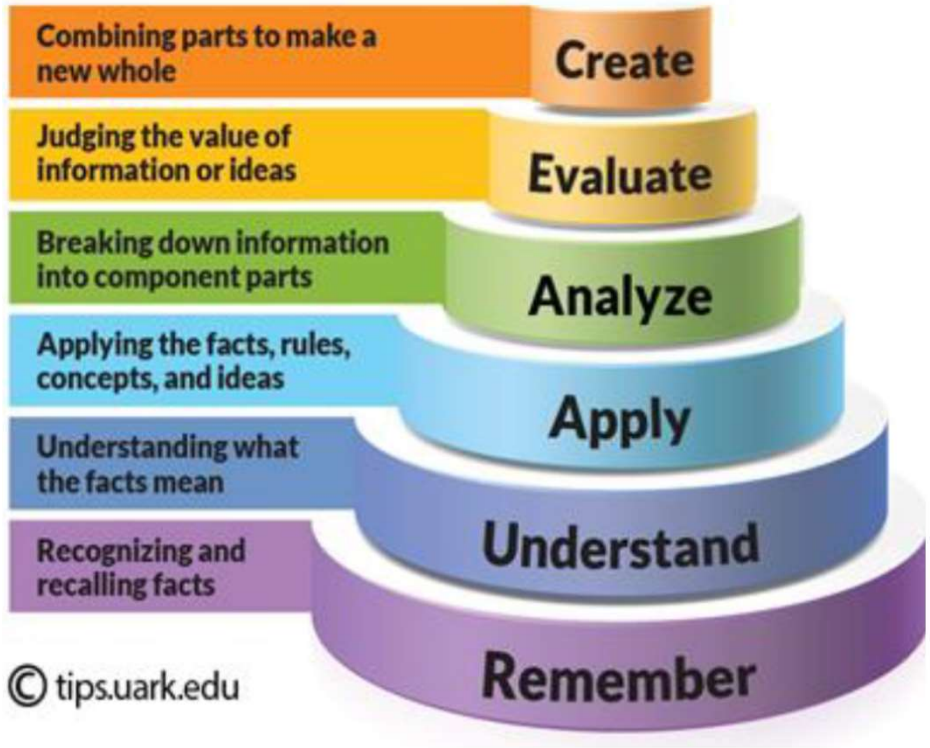




CAMBIAMENTO DEL MODELLO DI BUSINESS
FOCUS SU TECHNICAL SKILLS

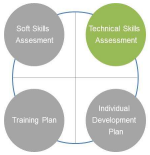
TECHINT Engineering & Construction

Un Team di progetto interfunzionale ha sviluppato un metodo di Test delle competenze tecniche distintive di Techint e del nuovo Business, basandosi sulla Tassonomia di Bloom (riadattata), declinando i diversi stili di pensiero ed i livelli alle competenze tecniche specifiche.



- **Remembering**: Retrieving, recognizing, and recalling relevant knowledge from long-term memory.
- **Understanding**: Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.
- **Applying**: Carrying out or using a procedure through executing, or implementing.
- **Analyzing**: Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing.
- **Evaluating**: Making judgments based on criteria and standards through checking and critiquing.
- **Creating**: Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

(Anderson & Krathwohl, 2001, pp. 67-68)



CAMBIAMENTO DEL MODELLO DI BUSINESS
FOCUS SU TECHNICAL SKILLS

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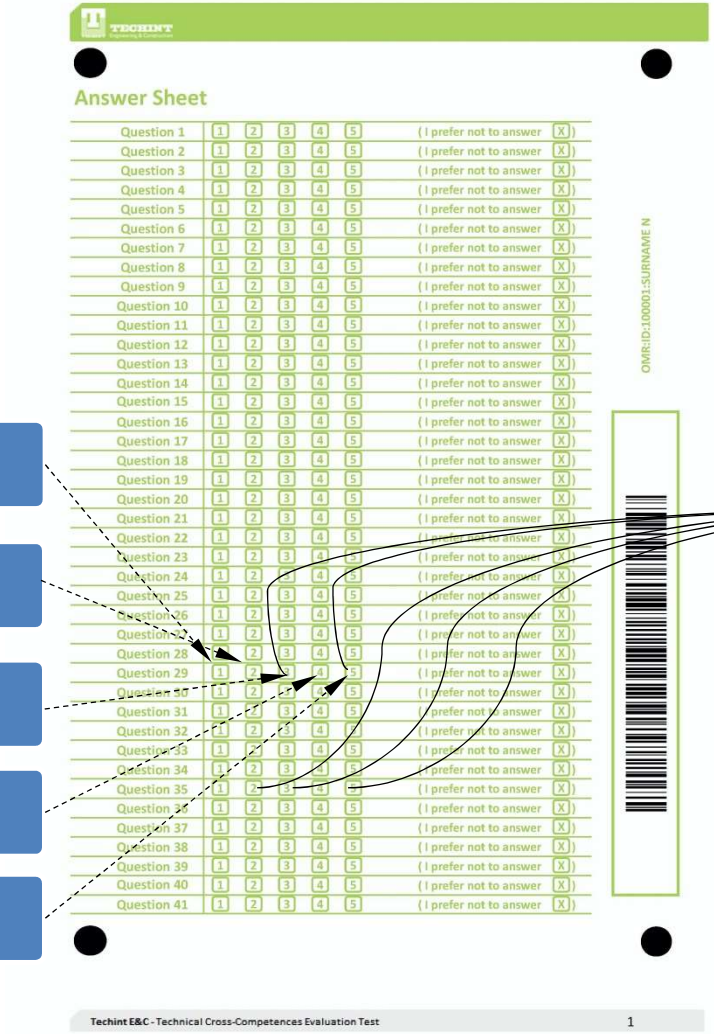
Yes, but…

- 3D Model Constructability
- 3D Model Constructability
- Plot Plan / Equipment Layout
- 3D Model Constructability
- Plot Plan / Equipment Layout

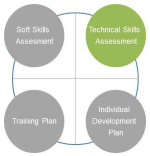


Plot Plan / Equipment Layout

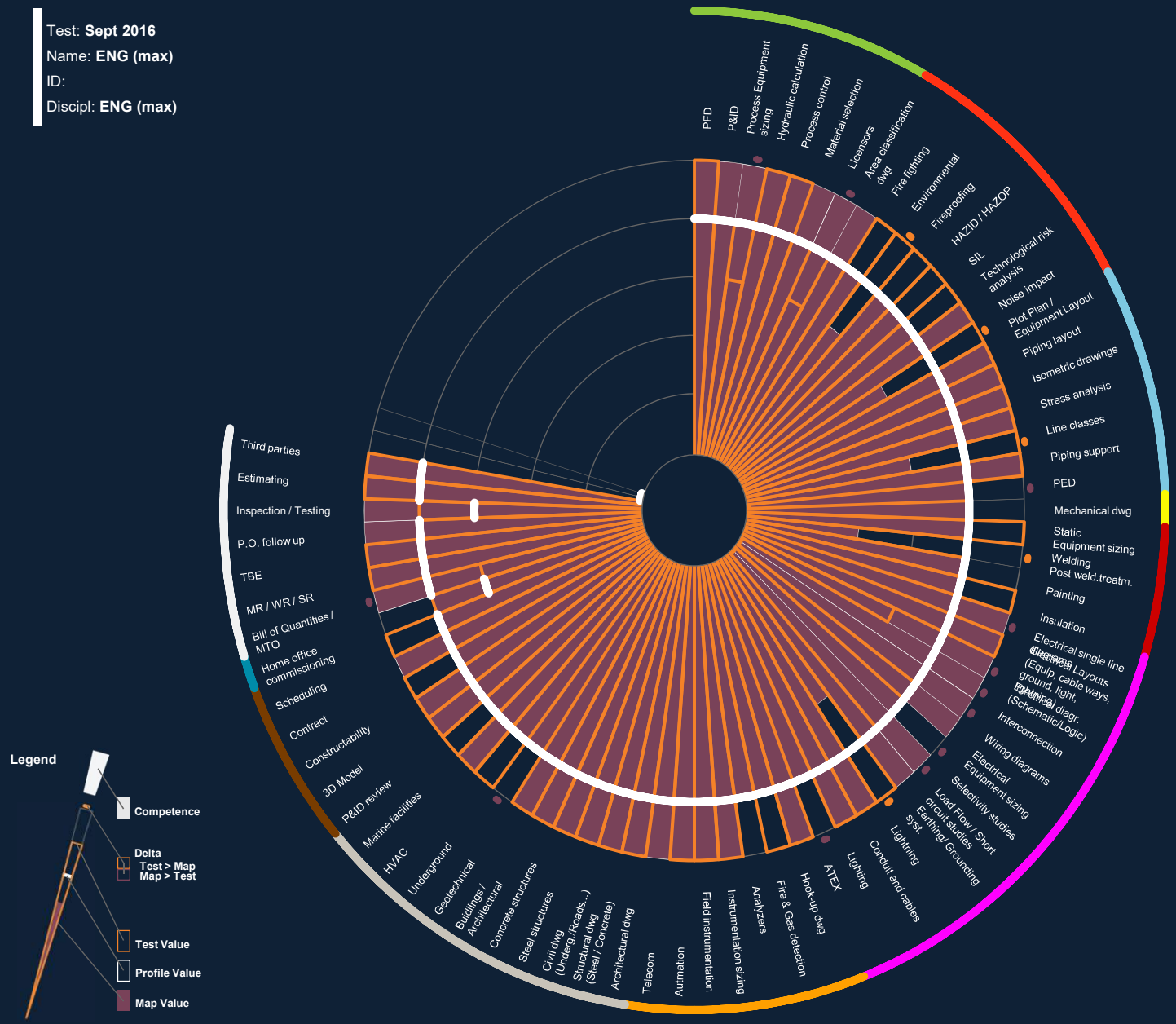
score does not come only from question 29…

And of course not all with the same weight…

Quest.	Answ.	Score
Q29	*3*	*-3*
Q29	*5*	*-3*
Q35	*2*	*-3*
Q35	*3*	*3*
Q35	*5*	*1*
Score range		*-9 to 4*



Test: **Sept 2016**
Name: **ENG (max)**
ID:
Discipl: **ENG (max)**



Legend

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CAMBIAMENTO DEL MODELLO DI BUSINESS
FOCUS SU TECHNICAL SKILLS

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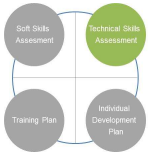
Test input

- **63** skills
- **41** Questions cross linked (resulting in 83 equivalent questions)
- 245 Answers

Test output

- **65 people tested** (100% of engineering professionals)
- About 16000 fields to be scanned (including the 6th neutral response “I prefer not to answer”)
- About only 8 minutes to scan all the Answer sheets
- Easy verification of scanned effectiveness by visual check



Thank
You
Maake
Asante
Shukria
Dhanyavadagalu
Dankon
Matondo
Biyan
Mauruuru
Dank Je
Dziekuje
Juspaxar
Arigato
Grazie
Gracias
Tack
Mochchakkeram
Tingki
Gratias Tibi
Obrigado
cám ơn bạn
ありがとう
Kia Ora
Djiere Dieuf
Go Raibh Maith Agat
Merci
Salamat
Danke
Welalin
Nirringrazzjak
Dèkuji
Suksama
Grazas
Blagodaram
Vinaka
Kiitos
감사합니다
谢谢
Dhanyavad
ขอบคุณ