Improving the attractiveness of vocational education and training

Symbiosis of Training for Employability and Productivity, A Solid fundament for Dual Vocational Training

2nd EuroSkills Competition

December 9th to 11th, 2010 - Lisbon

Dr.–Ing . Nader Imani

Festo Didactic GmbH & Co. KG

dni@de.festo.com, Tel. +49 711 3467 1410

The Well known …
Dual Vocational Education within the German Education System

Cooperative Education Model mainly in between Companies and Education Institutions,

but also;

- **Chambers of Crafts and Commerce and Industry,**
- **Ministries,**
- **Unions,**
- **…etc.**

Implementation of the Dual Vocational Education and Training

PROs and CONs Analysis

Extremely Complex!

- e.g. …,
- Lack of interest from the Industry.

Who are we – a global player in Industrial Automation

Festo Group

Festo is offering components and solutions in Factory and Process Automation since 75 years.

- Turn-over 1,650 Mill. €, 55% Export
- Represented in 176 countries
- Over 13,500 employees
- R&D budget is 6.5 % of the turn-over
- Training investment 1.5% of the turn-over

o are we – a Training Company in Industrial Automation and Production

Festo Didactic

- Member of the Festo Group
- Training and Consulting for all sectors of industrial production related on industrial standards and customer needs
- Offers perfect training solutions in all technologies of Mechatronics since more than 40 years
- Over 500.000 hours of Technical Training and Seminars in 26 languages – worldwide

Symbiosis for Competitiveness

Global Trade – The game goes on

World Real GDP Growth, 1980-2013

Source: IMF

Crisis are followed by Unemployment in Worldwide Economies

Strategies to improve competitive position of German machine manufacturers

Quelle: VDMA Tendenzbefragung 2008

Festo Training Overview

- More than 100,000 training days per year in more than 2,900 seminars, 30,000 Participants
- Qualified Festo trainers offer modular and quality assured training content in more than 30 languages

Technology:

Pneumatics, hydraulics, control systems, PLC/SPC technology, robotics, sensors

Organisation:

Process Optimisation, JIT/Kanban, Set-up time reduction, Value Stream Analysis, Supply Chain Mgt. Lean Design

People:

Problem solving techniques, moderation of teams, efficient communication, intercultural competence

Better Qualification as Factor for Higher Competitivness

Products Innovation Process – new training courses 2010

Pneumatics/ Hydraulics

Modern industrial hydraulics - HY 511 update

Safety circuits for maintenance crew and designers

Process Automation

Valves in Process Automation

Explosive Safety

Safety Integrity Level (SiL) to IEC 61508

Closed loop control

Industrial measurement, instrumentation

CoDeSys

CoDeSys – introduction for Programmers

CoDeSys for industry

Electric Drives

Fundamentals of Electric Drives

Fast, confident electric drive configuration

Safety

Understanding the new machine directive

Safety circuits for maintenance crew and designers

Explosive Safety

Safety Integrity Level (SiL) to IEC 61508

Energy

Energy-efficient design of pneumatic systems

Stop waste – Efficient maintenance of technical systems (DE)

White goods manufacturing - Testimonial

Customer
Bosch und Siemens Home Appliances

Objective
Development and permanent establishment of a production system (BSH–Production System)

Locations
Nauen (DE), Dillingen (DE), New Bern (US)

Results Nauen factory

- Increase of worker productivity by 35%
- Improvement of quality by using poka-yoke devices
- Installation of a sustainable continuous improvement process

Project duration
Start: 2006 – subsequent projects still in progress

Herbert Exler
Managing Director
BSH Hausgerätewerk Nauen GmbH

„In course of the project, we learned to concentrate on value added activities and avoiding waste. The active and creative support of Festo Didactic helped us to reach our ambituous aims goalds and allowed us to introduce new methods and tools“.

Symbiosis Industry/Education

Best Practice: Unilever Single Source Supplier European Framework from March 2009

Layer 3 – FluidSim © + FluidDraw ©
powered by Festo for Design and Simulation of Pneumatic Circuits in DE/ES/FE/GB

Layer 2 - Training
Operators, Maintenance, Project Engineers in all European countries, in all Festo national languages

Customised Training – i.e. TNA, Qualification Programs (I.D.E.A.)

Technology Training – Open Seminars in Pneumatics

Product Training – acc. Unilever Standards

Knowledge Check – web based & free

Layer 1 - Web Based Training (WBTs), on LMS "Classroom Manager"
(i) Pneumatics, (ii) Electro-Pneumatics, (iii) Sensors in Pneumatics, (iv) Sensors for Object Detection – GB/FR/DE/ES – and partly in EL/FI, other languages tbd. on demand

Knowledge Check – web based & free

Training for employability and productivity

Training for employability
Initial Education to focus on:

- Qualification of Students
- Add-on qualification of external students
- Training and certification according to International Standards

Training for productivity
Continuing Education based on short-term trainings for industry according to their specific demands:

- Training Programs in the field of Factory and Process Automation
- Specific training programs in the field of production planning and organization

FACT –
Festo Authorized and Certified Training - Empowering Vocational Educ

FACT –
Festo Authorized and Certified Training - Empowering Vocational Educ

FACT Centre for Production Engineering Training
Zeenni´s Trading Agency and Industry, Lebanon

- It is a **close partnership** of two independent partners with a long-term cooperative relation. Therefore, we select FACT partners carefully.
- It is a means to **multiply the training activities** of Festo Didactic .
- It helps to raise the quality of the offer of our partners on **pull principle**.
- It supports the increase of **sales**.

FACT examples

FACT Centre for Mechatronics Training,
Vocational Training Centre, Shinaz, Oman

FACT Centre for Mechatronics,
Instituto Tecnológico Centroamericano – ITCA, El Salvador

FACT implementation – Marketing Demand Driven

To be able to market the FACT program professionally and demand driven we need a comprehensive concept of planning and acting for today and for the future called Marketing strategy and Market-ing mix. Demand driven means, that we have to offer a train-ing program according to the specific require-ments of the Industry.

Achievements in working with industrial sectors

Development of Dual Education Program in ITCA, El Salvador

	2008	2009	2010
Students	40	79	135
Companies	22	40	66
Coaches	28	53	75
Re-enrolling Companies	0	11	12
Intercompany cooperation	0	13	15

Financial Independence of the current System

	No. Of Students	Dual - Mechatronics	Other Field sof Studies
Percent of Drop-out		5.3%	15%
Contribution from Industries (2008)	40	US$36,000.00	
Contribution from Industries(2009)	55	US$72,000.00	
Contribution from Industries (YTD2010)	135	US$ 101,700.00	
Revenue generated by ITCA without Mechatronics (2009)			US$60,000.00

EL ECONOMISTA

WWW.ELECONOMISTA.NET

CENTROAMÉRICA

CREDI Q LLEGA A LAS BOLSAS REGIONALES
El grupo financiero incursionará en la Bolsa de Valores de Costa Rica y titularizará en El Salvador.

ENTREVISTA CON LAURA FRIGENTI
Directora para la región del Banco Mundial dice que la "sostenibilidad fiscal" será clave para el futuro de C.A.

EEB INICIA TRABAJOS EN GUATEMALA
La empresa colombiana edificará 850 kilómetros de líneas de transmisión eléctrica en esa nación.

EMPRESAS
BECAS
ITCA-FEPADE

POR GERMAN ROMERO
EL SALVADOR

n 10% a 15% de personal que ha sido capacitado en la
donde se graduó Ileana, quien a la fecha esta pensando
on una especialización en el ITCA-FEPADE y siempre
icio económico de Belcorp.

reciben $75 mensuales, además de la posibilidad de que al concluir los dos años y medio de estudios esa compañía les dé empleo.

Marcos Lietz, coordinador de la carrera, resalta la importancia de contar con el apoyo de las compañías que requieren de mano de obra especializada en este tipo de profesión que en El Salvador era prácticamente nula.

La especialidad de mecatrónica cuenta en el ITCA-FEPADE con una planta simuladora para líneas de producción automatizadas en metal mecánica, alimentos, bebidas, química, textil, entre otras, que preparan al estudiante para enfrentarse al trabajo real.

En 2009 un total de 1.744 estudiantes se graduaron del ITCA-FEPADE en diferentes carreras. Ese mismo año 1.762 alumnos fueron becados.

na la teoría con prácticas en empresas del sector industrial.

250%

Waiting List for Participants in Training

The worldwide Network of FACT Centes

For further information regarding FACT don't hesitate to contact us.

- FACT website: www.festo.com/fact
- FACT email-address: fact@festo.com

Existing

In Discussion

December 2010

“Success of an education system is measured by Satisfaction of the labor market with quality of its graduates”

Thank you / Obrigado

www.festo-didactic.com