Smart City, Smart Manufacturing and Haptic Digital Learning Platform reality offer

Schneider Electric “Centre of Excellence” offer

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Life Is On Schneider Electric

Foreword

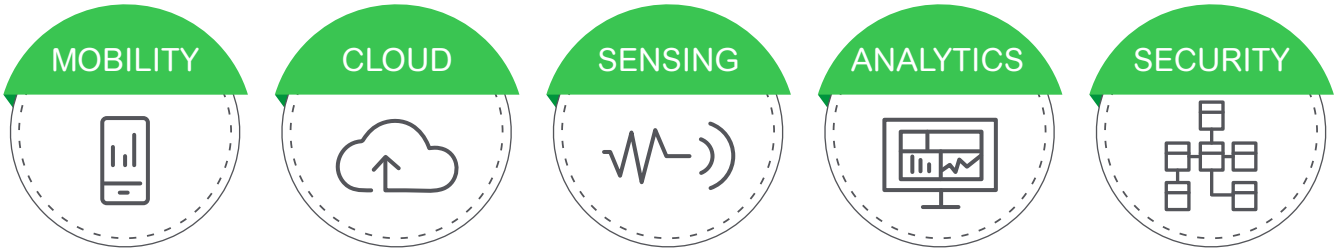
Education, skills, and resourcefulness of people are critical to sustain economic and social development. The megatrends of urbanization, digitization and industrialization is provoking the rise in energy demand leading to job creation. The current technology disruption caused by IoT, Industry 4.0 enabled by technology developments in mobility, cloud, sensing, analytics and security, creates the need for highly skilled human capital to innovate, operate and maintain this technology in the new environment.

Educational institutes face difficulties to update their syllabi in tune with this demand and with the high-speed changes taking place in the world of technology. Hence, the students graduating from the institutions are not equipped to meet the current industry requirements. In response to these challenges, Schneider Electric have intensified their academic interventions to tackle the impeding gap of human capital.

While we cannot predict the jobs of the future, there is no stopping job aspirants, industries and education systems from preparing for these jobs. One of the approaches to tackle the job-readiness challenge across the workforce is for them to work in partnership with Institutions. At Schneider Electric, we are actively working with various education providers, engineering colleges and universities to provide training in high-demand job skills in the fields of electricity, automation and energy management. Our aim is to train a skilled human capital with quality curriculum backed by systematic experiments through practical exercises.

Training individuals for the jobs of the future and allowing them to visualize what it possible today will not only make a difference in their lives but will enrich our communities now and for the future. Joint initiatives by the industry and academia will play an important part in plugging the talent gap in the years to come.

Technological changes fueling innovation...



Education, a central feature of Schneider Electric DNA

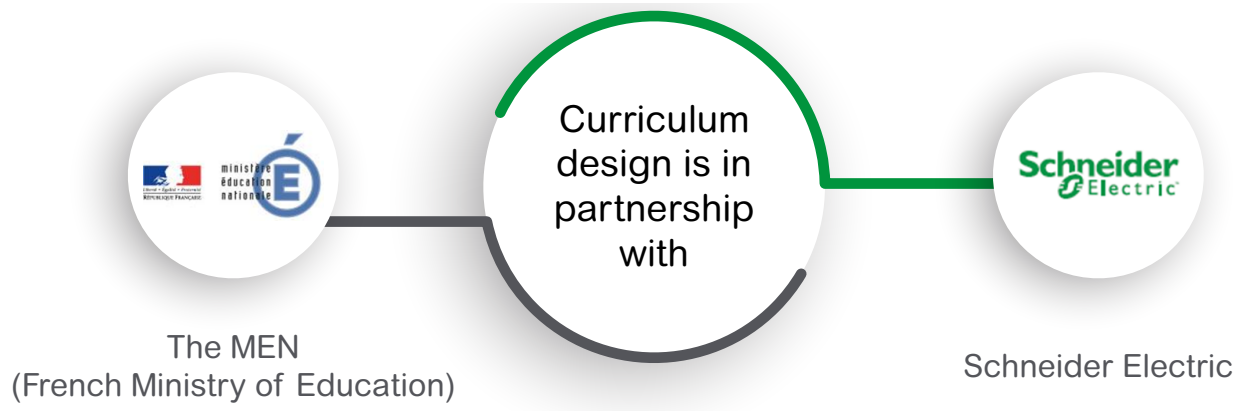
Schneider Electric, the global specialist in energy management and automation, has always been committed to support training in electricity, automation and energy management. As early as in 1929, Schneider Electric founded its own school Paul-Louis Merlin in Grenoble, to provide Technical Education to alleviate the shortage of skilled labor in the energy industry and help combat unemployment.

Today with our education activity, from initial training through to ongoing professional development, we support men and women as they prepare to manage their futures.

Schneider Electric is committed to energy transition, a process which is driving our economic growth. To bring about this change, we need not only to increase the use of renewable energies, but also to manage our energy requirements more efficiently. The digitization of consumption data and production methods will help us redress the balance between consumption and sustainable development, between comfort and efficiency. New technologies already exist, but they will only ever be successful if we prepare our young people to engage with the solutions of tomorrow. These are the people at the heart of energy transition; our future professionals who will have to juggle multiple technologies: communications, energy efficiency, home automation, renewable energy and smart grids. Therefore, Schneider Electric supports the world of education in facing these new challenges. Each year we train some 800 teachers and trainers through regional technical training courses and training days. We are now also integrating more online resources into our teaching programs and materials. Rather than being a strictly linear process, learning today should also involve a commitment from students to invest in their education in a more tailored approach. This is Schneider Electric's commitment - to support you throughout these changes and achieve a successful transition.

Working together with the French Ministry for Education, we have forged relationships between stakeholders in the education system and the world of business. Our initiative provides a collaborative platform to drive this initiative forward, focusing on new energy management technologies on a national and international scale." At an international level, Schneider Electric France and the French Ministry of Education have agreed to consolidate their cooperation to support countries in implementing effective training policies.

Curriculum, Teaching pedagogy and Certification



Teaching pedagogy

Practical activity takes the large part of the training time. The theory part will be 30% and the practical 60% of the training time. The last 10% will be dedicated to the knowledge and competency assessment.

One part of the concept is the autonomous of the trainees. For this, trainees have got at their disposal a set of chronological activities and resources' document. They perform the activities by their own. Theoretical part is given by the trainer when it is needed, and the trainer become a "Facilitator"

In modern education phraseology, the word "facilitator" is increasingly taking the place of "teacher". As the word suggests, a facilitator is a person who facilitates, or who makes things easier. To a large extent, the success of the training program – or any other classroom-based program for that matter depends on the trainers' ability to assume the role of a facilitator.

The place of the practical activities would be dominant. The world Facilitator is a good definition of the Professor/Trainer.

Certification

At the end of the course the students will be certified jointly by the training institute and Schneider Electric.


NEW HORIZON COLLEGE OF ENGINEERING
Schneider Electric
INDO-FRENCH CENTRE OF EXCELLENCE
ELECTRICITY, AUTOMATION AND ENERGY - SCHNEIDER ELECTRIC
TRAINING CERTIFICATE
This is to certify that [redacted] has attended a training programme on Programming PLC with Unity Pro and Programming HMI with Vijeo Designer held in the month of January 2018 for 10 days.
Dean - Academics
New Horizon College of Engineering
Schneider Electric
Director
Indo-France Centre of Excellence
Electricity, Automation and Energy - Schneider Electric

Introduction to the Schneider Electric Educational offer

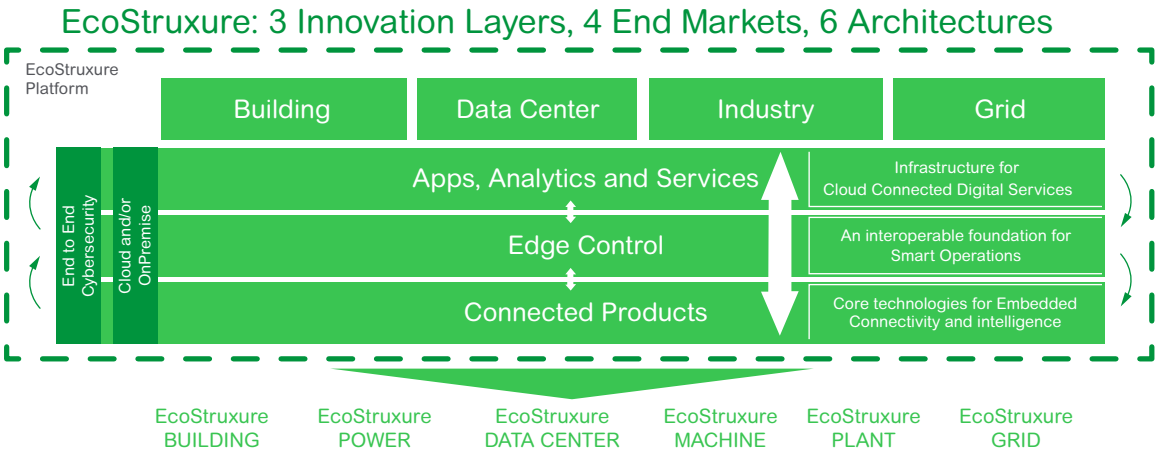
Being an engineer or technician is to be able to innovate, design, operate and maintain electrical, automation and energy management equipment's and services. The engineering and vocational training curriculums addresses different areas of the electricity, automation and energy management domain form the basics of electricity to electronics, power electronics through magnetism, physics, mechanics, materials etc. To be fully aware of all of this, and exposure to the real equipment is required and will facilitate the integration with the Industry market. The curriculum described in this document is built around modules that addresses different fields related to electricity, automation and energy management. These modules are built on the practical activities to be closer as possible to the field.

Thanks to the rapid growth in the IoT segment enabled by the development in Mobility, Cloud, Analytics and security, we now can access the information at the product levels which are controlled by the edge control layer. This availability of information and the analytical ability to process this information has converged the Operation technology with information technology. Schneider has been the leader to take advantage of this possibility and invented the 3rd layer forming its new proposition to the world "The EcoStruxure'. This third layer which is cloud based, empowers our customers with advisory controls to increase the efficiency and productivity of the plants like never, contributing to the profitability of operations and reduced CO2 emission in the planet.

EcoStruxure - Innovation at Every Level

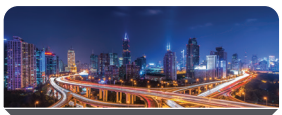
Power and Automation REDEFINED

Schneider Electric is in a unique position to make demand efficient and connected by combining Energy, Automation and Software and Analytics



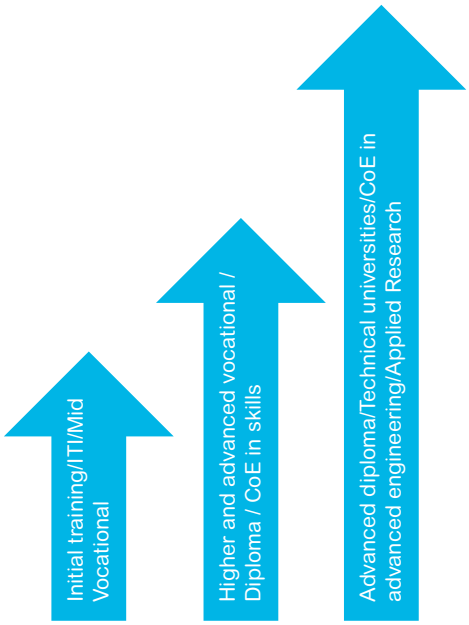
Our Education offer -
2 segments and a Digital learning platform

Segments - Smart City and Smart Manufacturing



Smart Energy	Smart Homes and Buildings	
Module 1E: Interactive City Grid	Module 1B: Intelligent Buildings - BMS and Application	Module 1A: Industry 4.0 - Combinations from 10 assembly line process stations, ERP, MES, Supervision, Digital twins, AR, VR, EMS, Robotics,Cybersecurity
Module 2E: Compact Substation (Upcoming offer)	Module 2B: Smart Homes and Building Automation	Module 2A: Industrial communication protocols, SCADA and Application
Module 3E: MV + LV + Transformer	Module 3B: Safe and secure buildings - CCTV, Access controls, FAS and PAS	Module 3A: Industrial Automation - HMI,PLC and Sensors
	Module 4B: Home and Building Installation	Module 4A: Industrial Installation, Controls and Drives

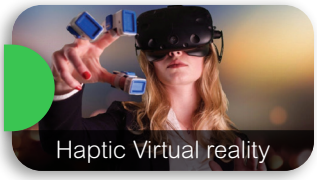
Recommendation to select your modules



Electrical Installation as per World Skills

Industrial controls as per World Skills

Digital Learning Platform

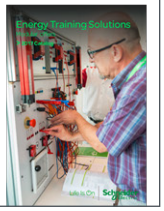


All difficult and dangerous training is now available on a VR platform

The platform will be updated every year for new scenarios of training on a subscription model

More than **200 educational equipment** in our fields of expertise

Safety is at the heart of all our training offer



Smart city Lab solutions

Smart Water (Upcoming lab)

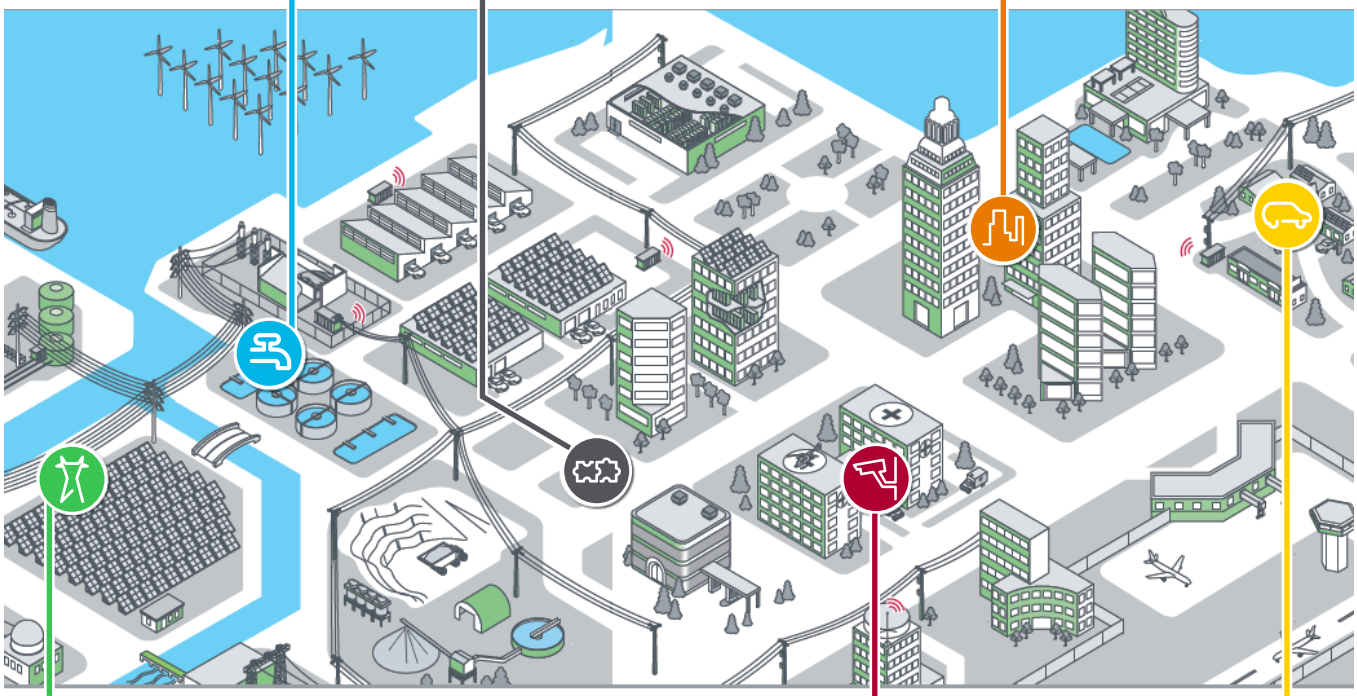
- Smart water network management
- Storm water and urban flooding management
- Water and waste water treatment plants
- Desalination plants

Smart Buildings and Homes

- Module 1B: Intelligent buildings - BMS and application
- Module 2B: Smart Homes and building automation
- Module 3B: Safe and secure homes and buildings
- Module 4B: Home and building installation and basic automation

Smart Mobility (Upcoming Lab)

- EV charging infrastructure and supervision
- Road, rail, air and maritime system solutions



Smart Energy

- Module 1EB: Interactive City grid
- Module 1E: Compact substation (upcoming)
- Module 3E: MV + LV + Transformer + Haptic Virtual reality

Smart Integration (Upcoming Lab)

- Smart planning and stakeholder management
- Integrated city management platform
- EcoStruxure integrated architectures
- Weather intelligence
- Desalination plants

Smart Public Services (Upcoming Lab)

- Public safety: video surveillance
- Emergency management
- Digital city services
- Intelligent street lighting management

Smart Factory Lab solutions

Module 1A: Industry 4.0

Any Combinations from 10 assembly line process stations:
Station 1: Base Feed Station
Station 2: Bearing Mounting Station
Station 3: Hydraulic Press Station
Station 4: Shaft Mounting Station
Station 5: Cap Mounting Station
Station 6: Screw Insertion Station
Station 7: 5-Axis Robot with Protective Cover Station
Station 8: Storage Station (Palletizing)
Station 9: Paint Drying Station
Station 10: Quality Control Station

Applications:

1) Energy monitoring and Cybersecurity
2) Supervision, CAMM tool, ERP and MES
3) Standard and Immersive 3D Simulation of the Operative Part
4) Augmented Reality (Augmented Maintenance)
5) Virtual Reality Production Line Control and Maintenance Scenarios

Module 2A: Industrial communication protocols, Scada and application

Module 3A: Industrial Automation – HMI, PLC and Sensors

Module 4A: Industrial Installation, controls and drives

Digital Learning Platform – Haptic virtual reality

A digital way to prepare for the jobs of the future while maintaining a safety mindset

Haptic VR educational equipment is a training solution that plunges trainees into a virtual electrical world, called VR Lab.

Our solution provides VR Lab on electrical distribution with MV and LV equipment. It allows trainees to acquire new competencies, in electrical safety, operation & maintenance domains.

It allows them to learn routine processes, but also face rare unexpected events and difficult situations.

Module selection – Recommendation

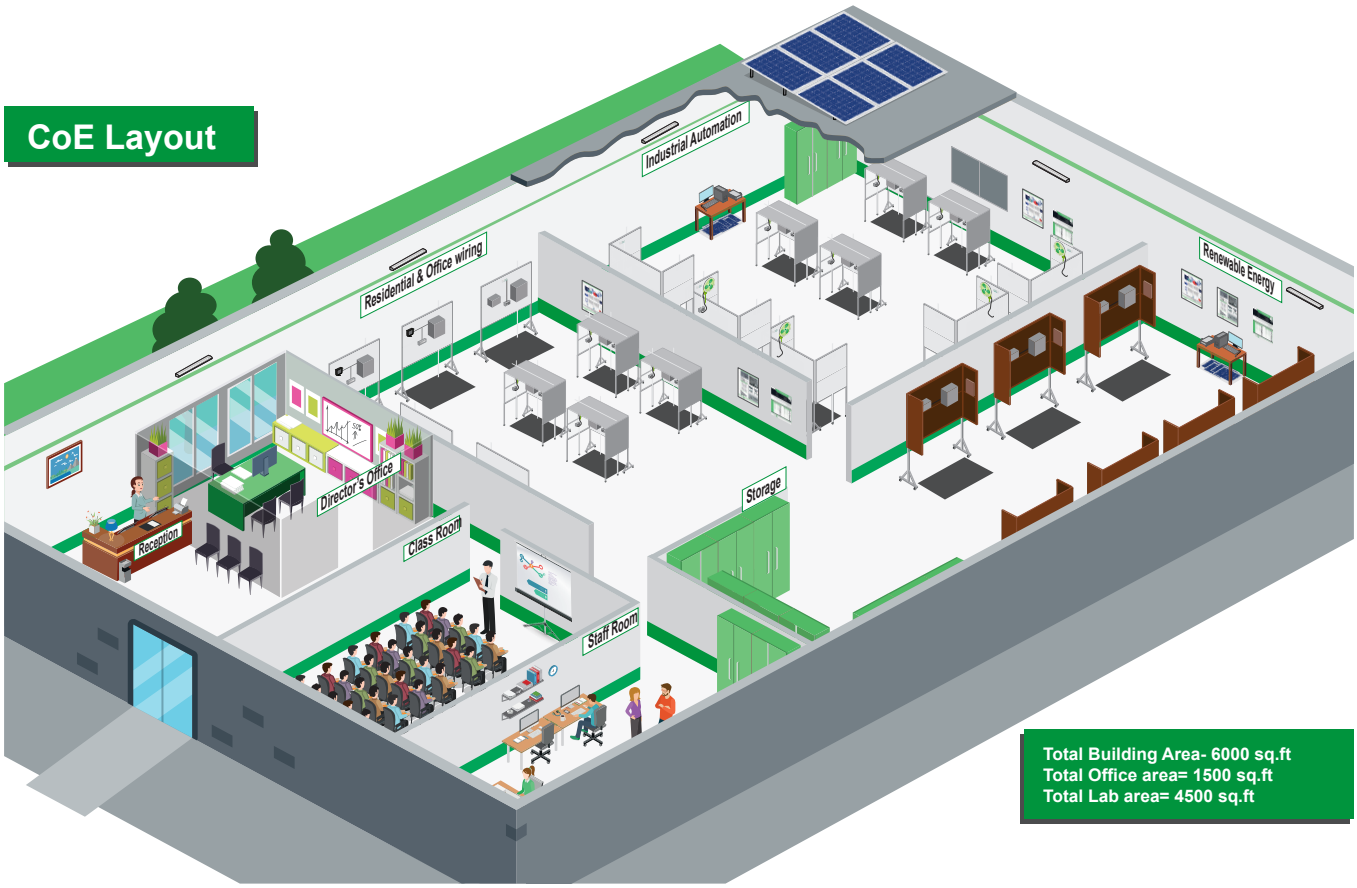
Smart City		Smart Manufacturing	Applicable branches – EC/EEE/ Instrumentation/ Mechanical/IP/CSE/ Mechatronics
Smart Energy	Smart Homes and Buildings		
Module 1EB: Interactive City grid **Module 1E:** Compact substation (Upcoming offer)	**Module 1B:** Intelligent Buildings - BMS and application **Module 2B:** Smart Homes and Building Automation	**Module 1A:** Industry 4.0 - Combinations from 10 assembly line process stations, ERP, MES, Supervision, Digital twins, AR, VR, EMS, Robotics, Cobot, Cybersecurity **Module 2A:** Industrial communication protocols, Scada and application	Master's program/applied research/ Engineering/ short term training for working engineers
Module 3E: MV + LV + Transformer + Haptic Virtual reality	**Module 3B:** Safe and secure Homes and Buildings	**Module 3A:** Industrial Automation – HMI, PLC and Sensors	Engineering/Diploma/ advanced ITI / CoE / short term training for working technicians
	Module 4B: Home and Building Installation and Basic Automation	**Module 4A:** Industrial Installation, controls and drives and basic PLC Automation	All ITI's and short-term training programs

Electrical Installation as per World Skills

Industrial controls as per World Skills

Proposed layout (It is only an example and can be customized for the selection of the lab equipment's)

CoE Layout



Total Building Area- 6000 sq.ft
Total Office area= 1500 sq.ft
Total Lab area= 4500 sq.ft

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Access to Energy, Sustainble Development