



GERENCIA DE DESARROLLO



## TRIPARTITE PROJECT

**CENTER FOR ENVIRONMENTAL TECHNOLOGIES  
(CTA)**

# SENATI

## Mission

Foster instruction and training of individuals for high productivity and dignified employment providing support to the national industry within the global context and contributing to quality of life in society .

## SENATI 2012 Nationwide Coverage



58,077 enrolled students in Technical Professional programs in 2012.



325,792 enrolled students in training courses in 2012 .



81 Professional and Training Centers at national level in 25 regions.



61 Technical Professional Careers



2,987 Training Courses



9,544 Admitted apprentices (Dual Model)



05 Vehicle Technical Inspection Centers



Textile Technology Lab.



10,969 graduates



90 % Employment rate of graduates employed within one year

# BACKGROUND OF THE PROJECT

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- The environmental degradation in Perú, has an average annually cost of US 2,900 Millions dollars (3,9% of GDP) .(Environment Diagnostic –Peru- 2008 – Ministry of Environment
- Unsatisfied Demand of environmental technicians in the private and public sector. The gross estimation is that 3, 700 environmental technicians are required today nationwide\*. 88% of companies has a specific area in charge of the environmental labour that needs to be composed of: supervisors, personal training and monitoring and measuring environmental variables.\*
- Due to the lack of supply of environmental technicians, the companies train technicians of other areas or even workers with basic studies\*.

\* (Research of market analysis made by SENATI 2011)

# TRILATERAL COOPERATION

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- ❑ Based in the agency agreement of international cooperation between SENATI & SENAI, opportunities were identified to develop a project referred to identify opportunities on issues related to innovation and technology transfer.
- ❑ Sponsored with the support of SENAI , the feasibility of presenting the projects have to be driven throughout the Trilateral Technical Cooperation: SENAI, The Agencia Brasileña de Cooperación Internacional (ABC) and the German Cooperation (GIZ).
- ❑ This cooperation was focused in financing projects referred to energy efficiency, environment and biotechnology.
- ❑ Three projects related to these items were presented and it was decided, the one concerned to the “ Development of an excellent Centre for Environmental Technology
- ❑ The proposal would have as the axis : technological training and qualification , technical assistance and Consultancy, and applied research
- ❑ The trilateral mode of cooperation among the parties were agreed as:
  - ❑ SENATI : Infrastructure, specialists and operating expenses.
  - ❑ ABC- SENAI : Equipment and Technical Assistance.
  - ❑ GIZ : Equipment, consultation and qualification





## Comisión Técnica de Apoyo especialidad Técnico Ambiental



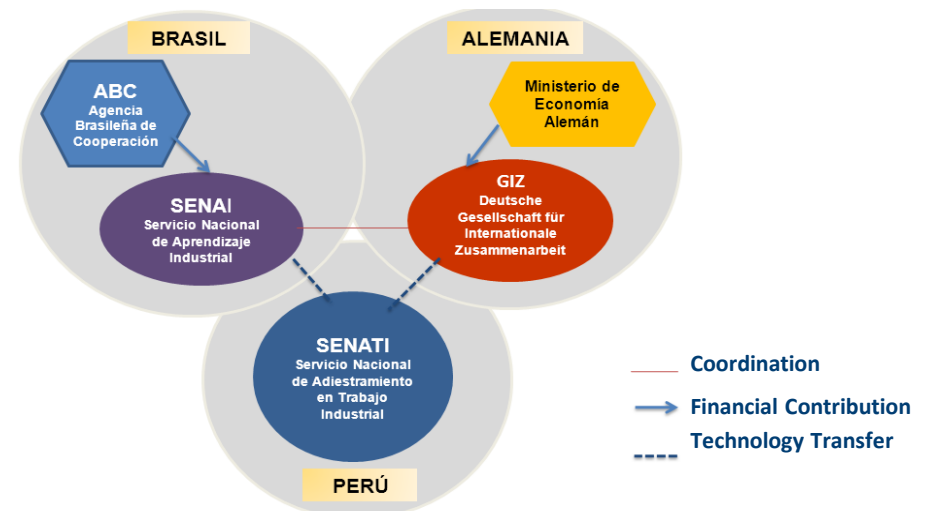
	EMPRESA	REPRESENTANTE	CARGO	FIRMA	FECHA
1	Alicorp S.A.	Ing. Miguel Takeda	Director de Calidad y Seguridad Corporativa		02/04/12
2	Gloria S.A.	Ing. Herbert Calderón	Gerente de Higiene, Seguridad y Gestión Ambiental		21/02/2012
3	Agropecuaria Esmeralda S.A.	Ing. Maria Luisa Flores	Gerente Planta de Beneficio		02/04/2012
4	San Fernando S.A.	Ing. Maria Grazia Rossi	Jefa de Gestión Ambiental		3/04/2012
5	Unique S.A.	Ing. César Anaya	Director Corporativo Gestión Ambiental de Yanbal International		3/04/2012
6	Ajinomoto del Perú S.A.	Blga. Nancy Carrasco	Especialista ambiental		02/04/12
7	Tecnofil S.A.	Ing. Marcelo Quiñones	Coordinador del Sistema Integrado de Gestión, Calidad, Medio Ambiente, Seguridad y Salud Ocupacional		03/03/12.
8	Tecnología de Alimentos S.A.	Ing. Elmer Bueno	Jefe de Gestión del Medio Ambiente		02/04/2012
9	Corporación Pesquera Inca S.A.C.	Ing. Liliam Quijano	Coordinadora de Sistemas de Gestión Ambiental y de Seguridad		03/04/2012
10	Compañía Universal Textil S.A.	Ing. Dante Muchotrigo	Jefe de Tintorería		2/04/12

# CTA - DEFINITION

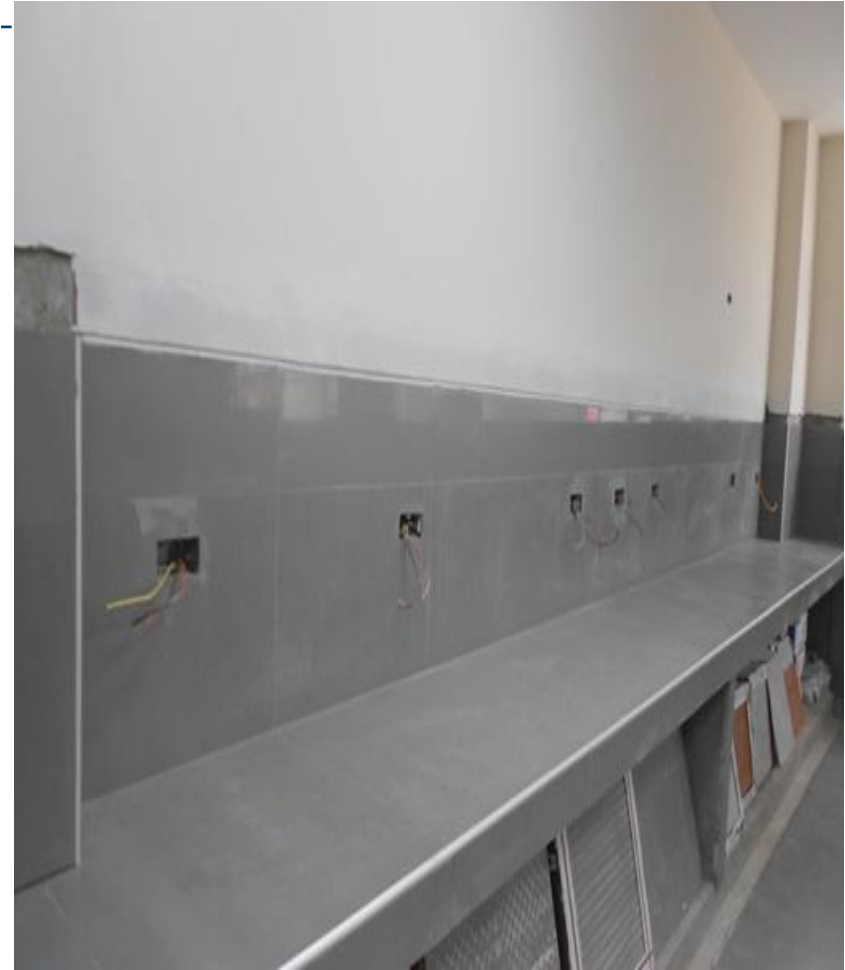
Tripartite Cooperation Project among PERU, BRAZIL and GERMANY for instruction, training, technical services and applied research in environmental and energy efficiency areas



Panoramic View of facade



## PRIMER NIVEL



Planta Didáctica agua y efluentes.  
Los Enchapes del primer nivel se encuentran en  
un 95 %



Baño pasadizo central



Laboratorio didáctico  
microbiología.





Laboratorio físico químico



Pasadizo central



Sala de coordinadores



Aula N° 1

# CENTER FOR ENVIRONMENTAL TECHNOLOGIES (CTA)

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- ❑ Building of 2 Floors ( 1,126.45m<sup>2</sup>) with projection to 4.
- ❑ Cost of the Construction ( US 1'236,364 ) doesn't include equipment
- ❑ 2 Didactics Labs
- ❑ 2 Didactics Plants for water treatment and effluents
- ❑ 2 Labs., for services ( Chemical – Physics)
- ❑ 3 Technological classrooms

# ECONOMIC CONTRIBUTIONS

CONTRIBUTORE	AMOUNT US\$	AMOUNT S/.	AMOUNT %	AMOUNT OF EQUIPMENT \$	AMOUNT OF EQUIPMENT S/.
SENATI	1,168,572	3,211,235.80	22	191,606	525,000.00
ABC (BRASIL) /SENAI	2,822,832	7,757,142.30	54	578,808	1,590,564.30
GIZ (GERMAN)	1,255,789	3,450,908.10	24	125,000	343,500.00
<b>TOTAL</b>	<b>5,247,193</b>	<b>14,419,286.00</b>	<b>100</b>	<b>895,414</b>	<b>1,934,064.30</b>

T.C. (13/06/2013) 2.748

*The initial investment of SENATI (PERU) was of US\$ 1,168,572 dólares ( 2010). Today the budget has been increased in 78%, reaching the amount of US \$2,081,887.91 ( 2013).*



## II. CENTER OF ENVIROMENTAL TECHNOLOGIES SENATI)

Oferta de Servicios en:



✓ Implementados

# TECHNICAL COOPERATION ACTION AREAS BRAZIL-GERMANY-PERU

Technical Cooperation Action Areas Brazil- Germany-Peru		Subjects and responsibilities associated to international contibution		
<b>Products &amp; Services</b>		<b>Water, sanitation cleaner production and solid waste</b>	<b>Air, energy efficiency and renewable energy</b>	<b>Soil and recovery of degraded areas</b>
Professional Training Programmes	<b>Training Programs</b>	<b>SENAI</b>	<b>GIZ</b>	<b>GIZ</b>
	<b>Technical Careers</b>	<b>SENAI General Subjects (GIZ Complementary and Specific Contents)</b>		
<b>Services</b>	<b>Technical Consultancy</b>	<b>SENAI</b>	<b>GIZ</b>	<b>GIZ</b>
	<b>Applied Research</b>			
	<b>Monitoring Services and Lab Testing Analysis</b>			<b>SENAI</b>

<b>Institutional Strengthening</b>	<b>Products and Services</b>	<b>Responsible</b>
	<b>Virtual Library : Planning, Monitoring and Evaluation System</b>	<b>GIZ</b>
	<b>Business Plan , Market Plan and Communication Strategy</b>	<b>SENAI</b>
	<b>Internal Management and Technical Team Development SENATI/ Graduate Studies</b>	<b>SENAI (GIZ complementary modules)</b>
	<b>Consultancy for adequacy of physical infrastructure</b>	

# CTA SERVICES

## Range of Services :



Technical instruction in careers related to Environmental Technologies



Continuing Training Programs through Specific Courses Specialized Training, Diplomas and Conferences.



Technical Consultancy in Environmental Technology and Energy Efficiency to Enterprises in the industrial sector.



Environmental Projects to the Industry and other sectors



Applied research in the following areas: Water, Sanitation, Air Quality, Soil, Energy Efficiency and Renewable Energy.



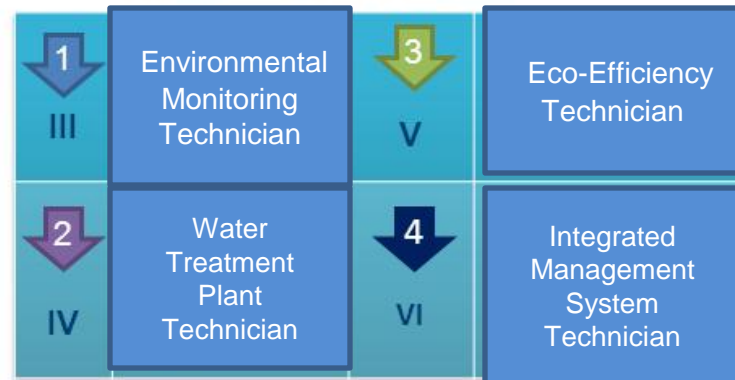
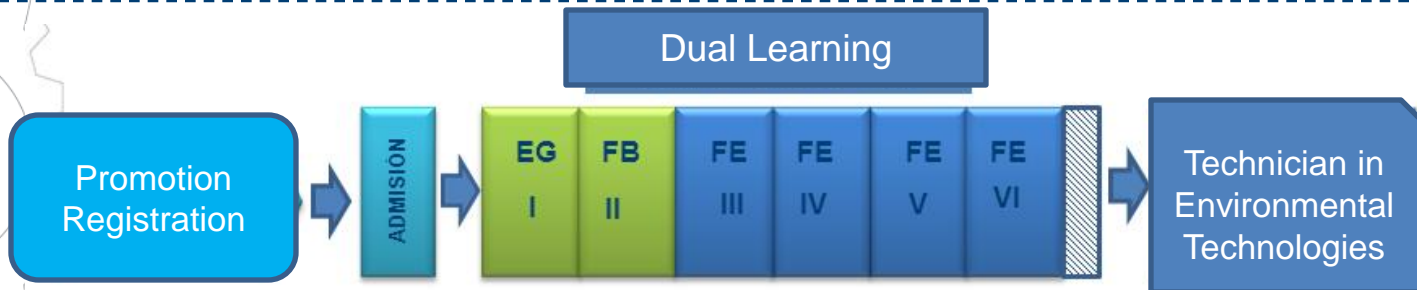
Environmental Analytical Monitoring Parameters Services in Water, Soil and Air.

\* Implementation in 2014



Performed

# I. PROFESSIONAL PROGRAMS IN ENVIRONMENTAL TECHNOLOGIES



- This career started in September 2012.
- 96 students are enrolled in the program
- Admission 2013-II reports 66 vacancies



## II. CONTINUING TRAINING : COURSES






140 trained participants

- ✓ Eco-Efficiency Tools for the Industry- PML
- ✓ Energy Efficiency in the Industry
- ✓ Integrated Solid Waste Management
- ✓ Environmental Assessment Instruments
- ✓ Installation of a solar photovoltaic system
- ✓ Management of Waste in Construction
- \* Effluent Treatment

\* Design Process      ✓ Implemented

### Instructional Design for Specialized Courses

### Implementation of Courses

- 
Community based Environmental Monitoring ✓
  - 
Environmental Quality Monitoring- Technical Perspective
  - 
Eco-Efficiency
- \* Design Process      ✓ Implemented

# III. CONSULTANCY AND ADVISORY SERVICES

## ❖ Services Performed :

- Study of Instruction and Training Programs in Sustainable Construction - Canadian Cooperation (October-November 2012)
- Management of Waste - Ministry of Housing, Construction and Sanitation. ( November 2012)
- Implementation of Cleaner Production- INTRADEVCO Enterprise Lurin Plant ( January –May 2013)
- Project: “Expansion and Improvement of Monitoring Network for Air Quality Forecasting Activities in Lima ”

## ❖ CTA counts with a Mobile Unit for Quality Air Monitoring

This Mobile Unit is composed by:

- Gas Analysers
- Samplers for breathable particulated matter
- Gas flow control system
- Metereological Station



Gas analysers and Gas flow control system



Meteorological Station and Samplers for breathable particulated matter

