

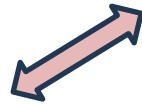
# Deutsch-argentinisches Programm zur Förderung binationaler Studiengänge mit Doppelabschluss

## Industrial Informatics- Specialization *Industrial Cyber-Physical Systems*

**Dónde están Emden y Santa Fe?**  
**Where are Emden and Santa Fe?**  
**Wo sind Emden und Santa Fe**

# ENGLISH

Spanish



German



- Maximum 3 students per year of the degree course Master in Industrial Informatics, Hochschule Emden/Leer
- Semester 1 done in Germany
- Semester 2 to be done in Argentina
- Semester 3 to be done in Emden (Master Thesis)
- Language of Instruction in Argentina: English
- Prerequisites: Spanish language, at least A1 before departure
- Students get a fellowship covering:
  - 1.500 Euro travel grant and
  - 1.075 Euro per month for subsistence expenses during (maximum) one semester (6 months) in Argentina
- Exchange of teachers and staff is financed as well

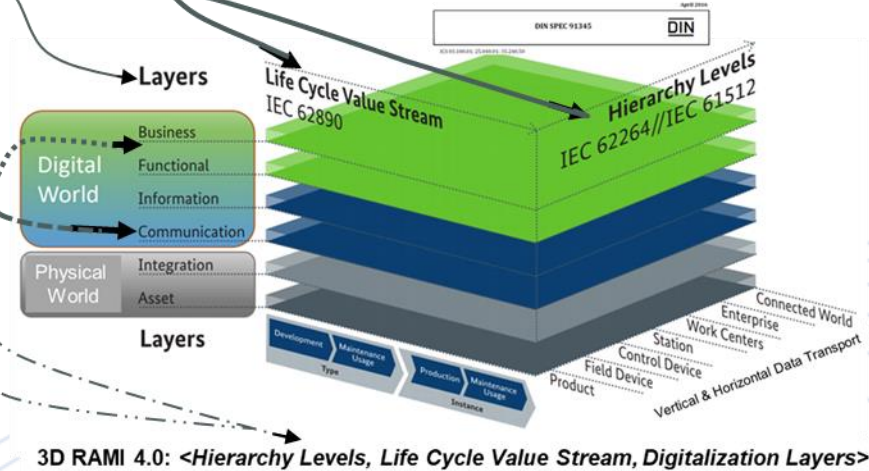


[www.hs-emden-leer.de/sl/arg-bi-ma](http://www.hs-emden-leer.de/sl/arg-bi-ma)

### Binational-Master Curriculum Denomination of Modules at the UTN-FRSF and at the HSEL




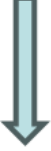


### Formal mapping of "obligatory" Binational-Master-Modules of the 1<sup>st</sup> two semesters into the DIN SPEC 91345 (RAMI 4.0)

Plan de estudio / Studienplan		HSEL	UTN-FRSF
Semestre 1 <i>Semester 1 (an der Heimathochschule)</i>		Créditos Credits	Horas Stunden
 Study Path for a UTN-FRSF-Student Study Path for a HSEL-Student	UTN-FRSF: Digitalización de Sistemas Físico-Cibernéticos Industriales HSEL: <u>Digitalization Engineering</u>	5	60
	UTN-FRSF: Modelos de Organizaciones y Sistemas Físico-Cibernéticos Industriales HSEL: <u>Industrial Cyber-Physical Systems</u>	5	60
	UTN-FRSF: Tecnologías para la Integración de Datos Industriales HSEL: <u>Industrial Internet of Things</u>	5	60
	UTN-FRSF: Metodología de la Investigación (*) HSEL: <u>Optative 1 (*)</u>	5	60
	UTN-FRSF: Proyecto 1 HSEL: <u>Group Project</u>	10	120
<b>Semestre 2 <i>Semester 2 (an der Gasthochschule)</i></b>		<b>Créditos Credits</b>	<b>Horas Stunden</b>
 Study Path for a UTN-FRSF-Student Study Path for a HSEL-Student	UTN-FRSF: Minería en Grandes Volúmenes de Datos HSEL: <u>Data Science and Analytics</u>	5	60
	UTN-FRSF: Ingeniería de Sistemas Físico-Cibernéticos Industriales HSEL: <u>Mathematical Modelling of ICPS</u>	5	60
	UTN-FRSF: Sistemas Robóticos HSEL: <u>Robotic Systems</u>	5	60
	UTN-FRSF: Motivación para el Cambio (Investigación + Desarrollo + Innovación) (*) HSEL: <u>Optative 2 (*)</u>	5	60
	UTN-FRSF: Proyecto 2 HSEL: <u>Peer Project</u>	10	120
<b>Semestre 3 <i>Semester 3 (an der Heimathochschule)</i></b>		<b>Créditos Credits</b>	<b>Horas Stunden</b>
 Study Path for a UTN-FRSF-Student Study Path for a HSEL-Student	UTN-FRSF: Tutoría, actividades de investigación y desarrollo de tesis HSEL: <u>Master's Thesis</u>	30	360



3D RAMI 4.0: <Hierarchy Levels, Life Cycle Value Stream, Digitalization Layers>

Concepto para la integración de currículas de la HSEL/L y la UTN-FRSF (ii)

<b>Plan de estudio / Studienplan</b>		HSEL	UTN-FRSF
 Study Path for a HSEL-Student 	<b>Semestre 1</b> <b>Semester 1 (an der Heimathochschule)</b>	<b>Créditos</b> <b>Credits</b>	<b>Horas</b> <b>Stunden</b>
	UTN-FRSF: Digitalización de Sistemas Físico-Cibernéticos Industriales HSEL: <u>Digitalization Engineering</u>	5	60
	UTN-FRSF: Modelos de Organizaciones y Sistemas Físico-Cibernéticos Industriales HSEL: <u>Industrial Cyber-Physical Systems</u>	5	60
	UTN-FRSF: Tecnologías para la Integración de Datos Industriales HSEL: <u>Industrial Internet of Things</u>	5	60
	UTN-FRSF: Metodología de la Investigación (*) HSEL: <u>Optative 1 (*)</u>	5	60
	UTN-FRSF: Proyecto 1 HSEL: <u>Group Project</u>	10	120
 Study Path for a HSEL-Student 	<b>Semestre 2</b> <b>Semester 2 (an der Gasthochschule)</b>	<b>Créditos</b> <b>Credits</b>	<b>Horas</b> <b>Stunden</b>
	UTN-FRSF: Minería en Grandes Volúmenes de Datos HSEL: <u>Data Science and Analytics</u>	5	60
	UTN-FRSF: Ingeniería de Sistemas Físico-Cibernéticos Industriales HSEL: <u>Mathematical Modelling of ICPS</u>	5	60
	UTN-FRSF: Sistemas Robóticos HSEL: <u>Robotic Systems</u>	5	60
	UTN-FRSF: Motivación para el Cambio (Investigación + Desarrollo + Innovación) (*) HSEL: <u>Optative 2 (*)</u>	5	60
	UTN-FRSF: Proyecto 2 HSEL: <u>Peer Project</u>	10	120
 Study Path for a HSEL-Student 	<b>Semestre 3</b> <b>Semester 3 (an der Heimathochschule)</b>	<b>Créditos</b> <b>Credits</b>	<b>Horas</b> <b>Stunden</b>
	UTN-FRSF: Tutoría, actividades de investigación y desarrollo de tesis HSEL: <u>Master's Thesis</u>	30	360

# Participating students

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From HSEL:

- 2 students starting in March 23
- 2 students starting in August 23
- 1 student started in August 24



From UTN:

- 1 student starting in March 22
- 3 students starting in March 23
- 2 students starting in March 24
- 2 students started in September 24
- 2 students started in March 25  
(now in Germany)

# Contact at HSEL

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If YOU are interested in participating from Winter Semester 2025/2026 on,  
please contact until April 1st, 2025

On Faculty Level

Prof. Dr- Ing. Armando Walter Colombo

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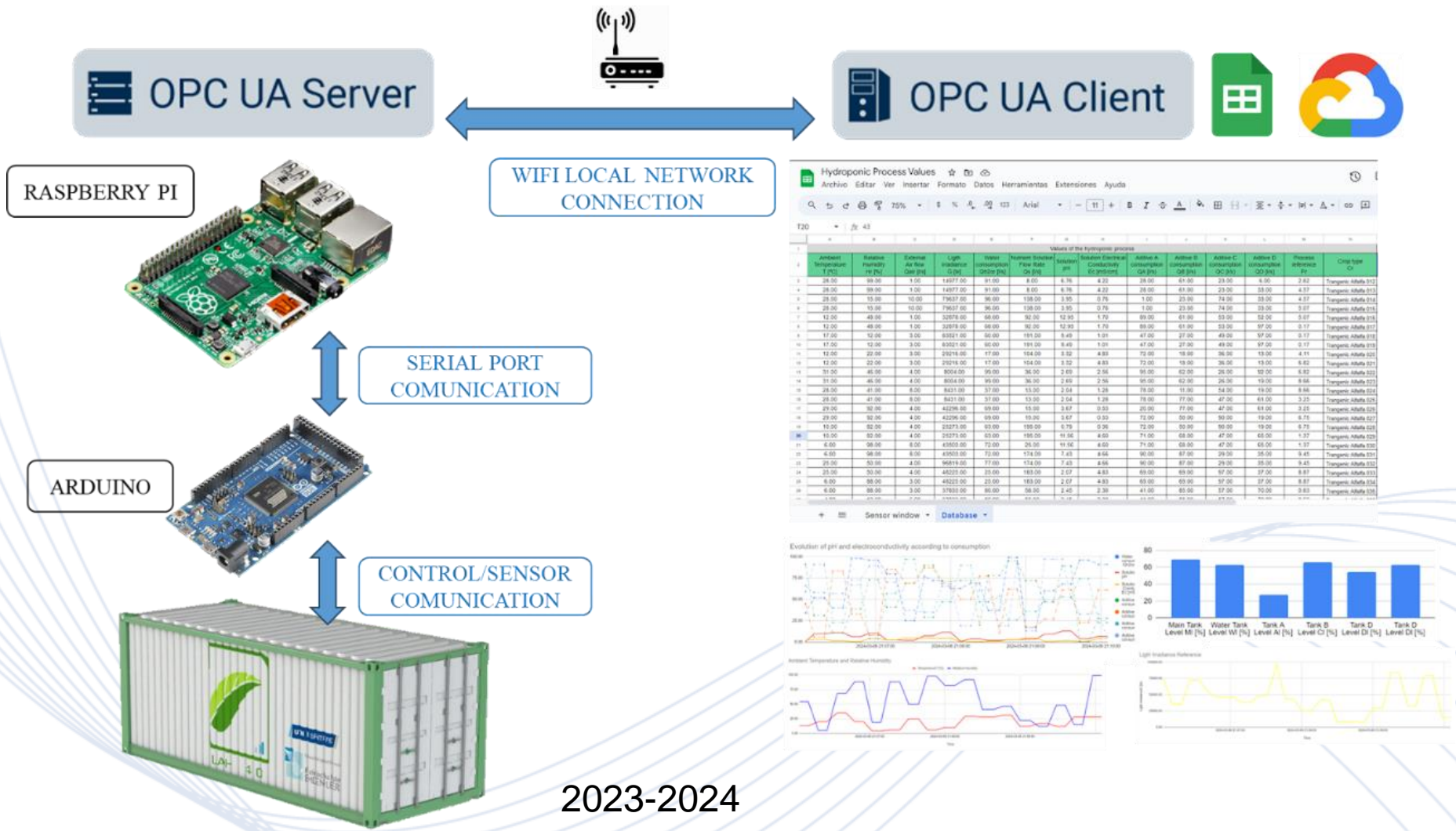
# Some impressions from March 2024





# Industry 4.0-compliant Digitalization Process for Supporting a Circular Economy

## Autonomous Hydroponic Laboratory (AHL) Development of a I4.0-compliant Hydroponic Component.



Source: HSEL/UTN – MII/Master Thesis “Agustin Mattei. 2024”