GERMAN – AP FORUM ON HIGHER EDUCATION

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION
(A Statutory Body of the Government of A.P.)
Books: The books in the emblem represent Knowledge
Blossom: The blossom in the emblem represents Wisdom
The 3rd Eye: The 3rd Eye in the emblem represents the Monitoring Agent
Flame: The flame in the emblem represents the Light of Wisdom & Knowledge

What does emblem signify? / Significance of the emblem
The books in the emblem represent knowledge. The blossom above the books represents wisdom and the third eye in the emblem represents the monitoring agent. The third eye and blossoms make a flame, which represents the light of wisdom and knowledge.
The emblem defines the role of Andhra Pradesh State Council of Higher Education As “Jignyasa Karyavahika” (the organization system to promote Quest for Knowledge)

Accessible and affordable higher education ensuring accountability
Perspective plan for effective governance in higher education
Strengthening institutional networking and global linkages
Curricular restructuring and technology enabled learning
Human resource potential enrichment
Enhancing quality and accelerating research
We at APSCHE wanted Higher Education especially technical education take to the next level and give a new direction. We want to improve the quality and bridge the gap between industry and academia. We want to prepare our Higher Education Institutes to cater to the dynamic changes in the industry across the globe. It is understood that technical education in India is more theory-oriented than practical-oriented. On the other hand, German technical education is known for its practical and innovative learning. Therefore, it is proposed to understand the German technical education system and emulate the best practices. Hence, the “German – AP Forum on Higher Education” was established and we have successfully completed the 6 Round Table Discussions (RTDs). I thank Mr. V.V.N. Raj, Executive President, German Varsity for Advanced Studies for organizing these 6 RTDs.

We have learned many new things from the series of discussions with the eminent personalities from Germany. Some decisions like Summer Schools, every course should be linked to some project in industry, faculty drawn with an experience in the industry, Industry-Academia Advisory Board, Industry-driven Ph.D. programs, one semester to focus explicitly on the project work, skilling 4.0 education initiatives, faculty industry immersion i.e. at least 2 months faculty internship at industry, practice schools, 6 months integrated internships, and establishment of ‘faculty exchange’ platform at APSCHE are the key takeaway points from the discussion. I convey my sincere gratitude to the German Professors Dr. Rainer Sterrer and Prof. Dr. Alexander Pollack for giving access to the e-content to the students of Andhra Pradesh.

These 6 RTDs have inspired us for the faculty exchange and the exchange of online learning resources.
ABOUT APSCHE

The Andhra Pradesh State Council of Higher Education (APSCHE) came into existence w.e.f. 20.05.1988 through Act 16 of 1988. The prime function of APSCHE is to advise the Government in matters relating to Higher Education in the State and to oversee its development with perspective planning and for matters connected therewith and incidental thereto.

The Andhra Pradesh State Council of Higher Education, the first of its kind in the country, was set up as per the recommendations of the National Education Policy 1986. It is primarily a coordinating body between the University Grants Commission (UGC), the State Government, and the Universities of the State. It is the general duty of the Council to coordinate and determine standards in institutions of Higher Education, Research, Scientific and Technical Institutions in accordance with the guidelines issued by the University Grants Commission from time to time.

APSCHE was established in 1988 with six conventional State Universities and its growth has been continued for 33 years. During the saga, APSCHE played a pivotal role in outlining the scope, structure, and funding pattern and succeeded with the establishment of 10 Conventional State Universities, 19 Specialized Universities, 02 State PPP mode Universities, 08 State Private Universities, 03 Central Universities, 08 Central Institutes and 05 Deemed to be Universities catering to the needs of nearly 20 lakh students. Before 1995, the role of the Council was to send the recommendations to the Government to accord permissions for starting Private Degree Colleges, permissions to start MBA, MCA, PGDCA, M.A, M.Sc., and M. Com courses, and enhancement of seats in Engineering and Degree Colleges of the state. After 1995, with the power delegated by the Government, APSCHE was empowered to accord approvals to start Private Unaided Degree Colleges, Law Colleges, Private Oriental Colleges, and corresponding contemporary courses. Under Government Orders, APSCHE has been conducting surveys annually to identify the grey areas and initiating educational establishments by inviting applications from private agencies desirous of starting new private colleges and UG and PG courses through press notification and extending the accessibility to the students of underserved areas.

In the light of experience gained over the years, APSCHE introduced Common Entrance Tests (CETs) for admission to various professional courses to endeavor justice to merit and social equity, a milestone in the Higher Education of Andhra Pradesh. APSCHE adopted a 'conveyor-belt' system for the process of registration and verification of certificates for the admissions in
Engineering & B.Ed. courses through online counseling. To prevent delays in admissions and to save the time of the students, Single Window (SW) Counselling and Web-Based Counselling were introduced by APSCHE. APSCHE initiated the Olive Data Base Project with the help of the Government in consultation with the Software Technology Park of India (STPI) and the validity of degrees (both the professional and post-graduation) of the students of Andhra Pradesh has been lifted to national and international standards. APSCHE constituted the High-Power Committee to evolve common performance parameters for self-assessment of the Universities to improve the quality of Higher Education in the state. APSCHE evolved model guidelines for the preparation of format for University Annual Report, Annual Administration Reports of the Universities, and Agenda for Boards of Management meetings to make them uniform, more purposeful, meaningful, and insightful. The Council initiated Industry - Institution relationships at the university level to encourage employability of the students. To achieve excellence, freedom has been given to autonomous colleges to frame the curriculum, evolve more effective methods of teaching and learning, and undertake other specific programs. The Council initiated the timely revision of the syllabus in all courses as per the requirement of stakeholders and conducted refresher courses for the teachers. APSCHE is playing a crucial role in academic and administrative reforms in Universities and Colleges across the state of Andhra Pradesh. APSCHE strives for achieving high standards of quality with a student-centric approach by coordinating with all the Higher Education Institutions (HEIs) and timely suggesting the government initiate appropriate measures to strengthen the system further.

APSCHE is the first SHEC to be established in the country in 1988. Since then, APSCHE commenced many appropriate reforms and activities to strengthen the Higher Education ecosystem in the state. APSCHE initiated many first-of-its-kind activities in the country to strengthen the higher educational institutes in the state while ensuring access, equity, and quality in higher education.
GERMAN – AP FORUM ON HIGHER EDUCATION

The Andhra Pradesh State Council of Higher Education (APSCHE) in association with the German Varsity for Advanced Studies and Indo Euro Synchronization created the “German – AP Forum on Higher Education” platform to address the topic of Higher Education between India and Germany. German – AP Forum on Higher Education proposed to conduct round table discussions for 6 months (initiated on 05th November 2021) to improve education standards and international opportunities for the students of Andhra Pradesh. The round table discussions were conducted through an online mode moderated by Mr. VVN Raj, Executive President, German Varsity for Advanced Studies, and Prof. K. Hema Chandra Reddy, the Chairman of APSCHE was the keynote speaker. APSCHE nominated the Vice-Chancellor/Director for the University Panel for every round table discussion.

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FIRST ROUND TABLE DISCUSSION

First Round Table German - AP Forum on Higher Education

Topic: What is Engineering? What is the difference between Science & Engineering?

Keynote Speaker
Prof. K. Hemachandra Reddy
Chairman, Andhra Pradesh State Council of Higher Education

Round Table - Panel
Guest of Honor
Prof. G. Ranga Janardhana
Dean, VNR Vignana Jyothi Institute of Technology, India

Special Address
Prof. Dr. Christian Stöckle
Director, Karlsruhe Institute of Technology, Germany

Special Address
Prof. Dr. Bertram Lohmiller
Professor of Physics, Technische Universität Darmstadt, Germany

Moderator
Prof. Dr. Rajagopala
Professor, Indian Institute of Technology Madras, India

📅 05th November 2021
🕒 3:00 PM - 4:00 PM IST (10:30 AM - 11:30 AM CET)
FIRST ROUND TABLE DISCUSSION (1ST RTD)

APSCHE conducted the first Round Table Discussion of the “German – AP Forum on Higher Education” in association with the German Varsity for Advanced Studies and Indo-Euro Synchronization on 05ᵗʰ November 2021 i.e. Friday on the topic “What is engineering? What is the difference between science and engineering?” Prof. K.Hemachandra Reddy, Chairman, APSCHE delivered the keynote address. The discussion was moderated by Mr. V. V. N. Raj, Executive President, German Varsity for Advanced Studies.

The following are the honorable speakers for the Round Table Panel Discussion

- Prof. G.R. Janardhana, Vice-Chancellor, JNTU Anantapur, Andhra Pradesh, India
- Prof. Dr. Guenther Starke, Research Director, European Center for Mechatronics, FH Aachen University, Germany
- Prof. Dr. Bertram Lohmüller, Sustainable Development Studies, Steinbeis University, Germany and Managing Director EABW, Stuttgart, Germany

Prof. K.Hemachandra Reddy, Chairman, APSCHE welcomed all the dignitaries and expressed his happiness in attending this discussion. He told that the ideation for this “German – AP Forum on Higher Education’ discussion took place long back while he was having a conversation with Mr. Raj about engineering. He wanted to understand the “difference in engineering education between India and Germany“ and convey this to the students. He requested Mr. Raj for a discussion and he thanked Mr. Raj for arranging this wonderful discussion in such a short period. This discussion aims to bridge the difference between India and Germany in technical education. Many engineering students have gone abroad for better opportunities and they complained about the lack of quality in technical education in India in comparison to technical education abroad.
India used to produce 25,000 engineering graduates in 1981. Today, India produces around 1.67 million engineering graduates every year. Andhra Pradesh with over 300 engineering colleges produces around 100,000 engineering graduates every year. There is a wide criticism that the quality was compromised while expanding the engineering education in the country. Technical education became more theory-oriented than practical-oriented. Andhra Pradesh initiated 10 months of internship in the revised curriculum, importance was given to skill development and practical training during the course. IT and ITes have grown at 20% every year in the last decade.

This boom witnessed many engineering students preferring software jobs by learning few required IT skills and neglecting the core domain skills of their parent branch. We are very eager to understand the German version of engineering education and looking forward to the inputs to enhance the quality of our education and bridge the skillset between industry and academia. Germany is the destination of Mechanical Engineering where practical learning is exemplary. We want to understand how you train your polytechnic students, ITI students, and engineering students.
EXCERPTS FROM THE DISCUSSION

What are the disruptions that happened in the last decade? What are your suggestions to Indian students to practice quality engineering to achieve their knowledge degrees?

Prof. G.R. Janardhana:

The curriculum and content of a program are fixed before the student joins the program. A student has a chance to choose 3 optional subjects. Many students might be interested in other subjects other than their parent subjects. The student has to satisfy with whatever the optional subjects are offered in the college. Recently, we have changed this provision and introduced the elective subjects so that a student can choose 40% of their interested courses from other platforms. However, they have to get approval from the college for the electives they choose.

What is your experience of studying science and practicing related engineering with a focus on the European context?

Prof. Dr. Guenther Starke:

Science is more or less related to research. Science is the basis for preparing the technology for engineering. Engineering is looking for solving problems for the industry. We at the university have to focus on how to use science for solving engineering problems. Theory combined with practical work is very important for students in learning technical education. Students in Germany can select a topic of their interest from a plethora of topics for the project work and 5 to 6 students form into a team to complete the project. In this process, they learn team building, cooperation, documentation, communication skills, presentation in front of the people, assessment, etc. Professors only supervise the students during the project. Students have an opportunity to learn practical work in the industry for 3 months during their internship. They learn how the industry works in production, understand workforce management and learn problem-solving skills. Students should maintain permanent communication with Professors. Professors should act as a guide, coaches, and mentors to their students.
What kind of strong science do students need to focus on during their engineering studies to become efficient engineers?

**Prof. Dr. Bertram Lohmüller:**

It depends upon the student’s interest in what strong science studies they need to focus on during their engineering studies. Teachers should be very highly skilled and experts in their subject matter. We need to develop an integrated approach involving knowledge, science, technology, and skills at the university to guide the students on technical education. The process of learning is very important and one should acknowledge the changing technology in the first place. One has to be very flexible during their engineering education to learn and they have to learn everything possible during those college years. German companies are looking for students who learn interdisciplinary technologies. One needs to learn both science and technology for better education and employment opportunities.

What are your suggestions to faculty on what kind of topics they need to strengthen concerning the global perspective? What kind of methodologies they should adopt?

**Prof. G.R. Janardhana:**

Any outcome of the scientific research should be in the form of a product and that product should be affordable to the customers. Faculty should train the students incessantly and for that, they have to upgrade themselves regularly. Faculty should be made available themselves to the students continuously. They should become mentors for the students.

What do faculty in Germany generally do to keep themselves updated with the requirements of the industry? What kind of methodologies should Indian faculty adopt?

**Prof. Dr. Guenther Starke:**

Students should trust the faculty that faculty teach as per industry requirements. Faculty must have industry experience before they start teaching. They should know about the customer needs and include this in their lectures. Faculty should
know about current developments, follow the current trends, and have strong connections with the industry. Students must be motivated and select the right discipline they want to pursue. They should do some self-learning to reflect on what they have learned at each lecture. A high degree of practice-oriented lectures with best practices from the industry should be taught in the colleges. Faculty should offer activities to the students to understand the depth of a subject. A highly motivated environment should be created at the university. Professors are checked by students every semester as students are checked by the professors every semester. Summer schools in the universities teach certain topics.

What kind of learning methodologies should HEIs adopt to make their students industry ready?

Prof. Dr. Bertram Lohmüller:
Industry and academia connection is indispensable in Germany. It provides knowledge transfer and, benefits both industry and academia. A professor must have industry experience in Germany. This helps in establishing good connections with the industry. Mandatory internships and group projects shape the skillset and knowledge of German students. We invite experts from the industry to teach in our colleges and they share real-life examples with the students. Every course should be linked to some project of industry. We need to build the competencies of both students and teachers regularly. We should develop the skillset and industry readiness of the students before they enter the job market.

Please scan the above QR code to watch the complete discussion
SECOND ROUND TABLE DISCUSSION

Second Round Table
German - AP Forum on Higher Education

Topic: What are the major challenges of engineering education in India and how should we address them?

Prof. K. Hema Chandra Reddy
Chairman, Andhra Pradesh State Council of Higher Education

Dr. G.V.R. Prasada Raju
Vice-Chancellor, Jawaharlal Nehru Technological University Kakinada

Prof. Dirk Jacob
University, Department of Education and Training (University of KwaZulu Natal)

Dr. Daniel Gogis
Managing Director, EF Academy

Mr. V.V.N. Raj
Executive President, Indo Euro Synchronization

Keynote Speaker
Guest of Honor
Special Address
Special Address
Session Chair

3:00 PM - 4:00 PM IST (10:30 AM - 11:30 AM CET)
10, December 2021
SECOND ROUND TABLE DISCUSSION (2ND RTD)

APSCHE conducted the second Round Table Discussion of the “German – AP Forum on Higher Education” in association with the German Varsity for Advanced Studies and Indo-Euro Synchronization on 10th December 2021 i.e. Friday on the topic “What are the major challenges of engineering education in India and how should we address them?” Prof. K.Hemachandra Reddy, Chairman, APSCHE delivered the keynote address. The discussion was moderated by Mr. V. V. N. Raj, Executive President, German Varsity for Advanced Studies.

The following are the honorable speakers for the Round Table Panel Discussion

- Prof. G.V.R. Prasada Raju, Vice-Chancellor, JNTU Kakinada, Andhra Pradesh, India
- Prof. Dirk Jacob, Vice President, University of Kempten, Germany
- Mr. Daniel Geigis, MD, KF Reutlingen University, Germany

Prof. K.Hemachandra Reddy, Chairman, APSCHE welcomed all the dignitaries and expressed his happiness in organizing this discussion. Many engineering students are showing interest to pursue their UG and PG in Germany because of the high reputation of the German universities. In Andhra Pradesh, education means engineering. In the last 2 decades, people largely preferred to join engineering. There were 17 engineering colleges in 1996 and the number has crossed 300 engineering colleges today. Andhra Pradesh with over 300 engineering colleges produces around 100000 engineering graduates every year.

People started adopting theoretical frameworks in engineering running behind grades and their curiosity to experiment the practical learning has been declining. Andhra Pradesh initiated 10 months of internship in the revised curriculum, importance was given to skill development and practical training during the course. We want our students to experiment, explore and innovate in their
practical learning. IT boom in India led to the decline in the quality of students in core branches of engineering and conventional branches failed to attract the students. In this process, the industry dependent on core branches has been suffering. The recent statistics show that 60% of students were admitted to CSE & ECE branches and only 40% of the students were admitted to EEE, Mechanical and Civil branches of engineering for the last academic year in India. This is a skewed development towards IT and ITes branches. Global branding of Indian engineering graduates across the globe is due to IT and ITes branches.

We need to create this branding for other branches also. How can we adopt the best practices and advanced technologies from Germany to bring quality into engineering education? 4,00,000 engineering students in Andhra Pradesh are looking forward to the suggestions and solutions from Germany.
EXEMPLARY FROM THE DISCUSSION

Your university (University of Kempten, Germany) is the strongest industry zone in south Germany producing 6000 quality students every year. What kind of practices did you implement in your university and what kind of challenges did you face while implementing them?

Prof. Dirk Jacob:
We focus on applied research and applied projects with the industry. Every professor has a work experience background in the industry and this helps us in collaborating with the industry. Every semester, there are five theoretical modules and one practical module. Students implement their learning from theory in the project and they present their problem statement & solution to their projects. In the last semester, we find industry partners to allocate a project to the students. Students take up industry projects and gain enormous experience & exposure from this project.

What are the challenges you have faced and what suggestions do you have for improving the excellence in engineering education?

Prof. G.V.R. Prasada Raju:
There is a lack of skill-based training i.e. employable skills & life skills in our HEIs. There is a lack of linkage with industry in the general and specialized industry in particular. E.g. Robotics, Mechatronics, etc. There is a dearth of placement opportunities after students graduate from the university/college. The syllabus and curricula should be revised regularly. Industry experts should come to interact with students and share their experience & expertise with HEIs.

What are your suggestions or action taken in Germany to improve the excellence of engineering education in India?

Mr. Daniel Geigis:
We need to digitize our education very fast. The very swift development of technologies is the need of the hour. Cross-sector cooperation between different branches of engineering becomes inevitable for the development of engineering. We
should be very flexible and open to other branches for collaboration. We need a perfect blend of theory and practice of the highest quality.

Please throw some light on your (University of Kempten, Germany) collaboration with China i.e. the challenges you faced and the suggestions you have for us.

Prof. Dirk Jacob:
Every university must find very good partner organizations for collaboration in research and projects. This helps in the smooth transition of students from academia to industry. Cross-sector cooperation between different branches of engineering is very important. E.g. Robotics is linked to AI, IT, Mechanical, and EEE. We ask our students to go towards IT & ITes branches of engineering in Germany. In India, students prefer IT & ITes branches.

JNTU-K is one of the largest public-funded technological institutions in the state, what kind of collaborations will be successful for the state? What kind of suggestions do you have for international institutions to collaborate with JNTU-K?

Prof. G.V.R. Prasada Raju:
JNTU Kakinada is collaborating with BTH Sweden and we are looking forward to collaborating with Germany in Mechanical engineering. Students should be provided an opportunity to get global exposure and gain knowledge.

As a knowledge foundation of KF Reutlingen University, Germany, could you please explain what practices Indian institutions should adopt immediately?

Mr. Daniel Geigis:
Good organizations look for professionals and students who have high competencies with problem-solving skills in multi-disciplinary sectors. We make sure that our partner organizations in the industry are from around the globe.

Please scan the above QR code to watch the complete discussion
THIRD ROUND TABLE DISCUSSION

GERMAN – AP FORUM ON HIGHER EDUCATION
21st January 2022 (Friday) | From 02:00 PM - 04:00 PM (IST)

TOPIC: The Era of Emerging Trends in Engineering Education
Career Opportunities in Germany

Dr. Audimulapu Suresh
Honorable Minister for Education
Andhra Pradesh

Dr. J. Syamala Rao, I.A.S
Principal Secretary to Govt. of A.P Department of Higher Education

Prof. K. Hemachandra Reddy
Andhra Pradesh State Council of Higher Education

Mr. V V N. Raj
Executive President, German Varsity, Founder- Indo Euro Synchronization

L. Round Table Panel on Skill Based Learning

Prof. Dr. G. G. Sterke
Research Director
German Center for Mechanical Engineering
TU-Darmstadt University, Germany

Dr. Narendra Kishore
Chief Executive Officer
APDEA

II. Round Table Panel on Internship Based Learning

Prof. Dr. Dirk Jacob
Vice President, Faculty of Robotics
University of Kassel, Germany

Prof. G. Ananda Jonathana
Vice-Chancellor
Jawaharlal Nehru Technological University, Anantapur

III. Round Table Panel on Employment Based Learning

Prof. Dr. Suresh Lohmueller
Managing Director
Sustainability Studies Initiative
BKIT – Barmera University, Germany

Dr. T. Arul Kumar
Chief Executive Officer
APDEA

Prof. Dr. G.K.R. Prasad Raju
Vice-Chancellor
Jawaharlal Nehru Technological University, Anantapur
APSCHE conducted the third Round Table Discussion of the "German - AP Forum on Higher Education" in association with the German Varsity for Advanced Studies and Indo-Euro Synchronization on 21st January 2022 i.e. Friday on the topic "The Era of Emerging Trends in Engineering Education - Career Opportunities in Germany: Skill-based learning, Internship-based learning & Employment-based learning". Dr. Audimulapu Suresh, Hon'ble Minister for Education, Govt. of Andhra Pradesh, the chief guest of the event, delivered the welcome address. The guests of honor Dr. J. Syamala Rao, IAS, Principal Secretary to Govt. of Andhra Pradesh, Higher Education Department, and Prof. K. Hemachandra Reddy, Chairman, APSCHE delivered the special address and session address respectively. The discussion was moderated by Mr. V V. N. Raj, Executive President, German Varsity for Advanced Studies.

The following are the honorable speakers for the Round Table Panel Discussion on Skill-Based Learning:

1) Prof. Dr. Ing. Günther Starke, Research Director, European Centre for Mechatronics, FH Aachen University, Germany
2) Shri. K. Ajay Reddy, Chairman, Andhra Pradesh State Skill Development Corporation (APSSDC)
3) Prof. P.V.G.D. Prasad Reddy, Vice-Chancellor, Andhra University

The following are the honorable speakers for the Round Table Panel Discussion on Internship-Based Learning:

1) Prof. Dr. Ing. Dirk Jacob, Vice President, Faculty of Robotics, University of Kempten, Germany
2) Shri. Nanda Kishore Reddy, CEO, Andhra Pradesh Electronics & Information Technology Agency (APEITA)
3) Prof. G. Ranga Janardhana, Vice-Chancellor, JNTU-Anantapur
The following are the honorable speakers for the Round Table Panel Discussion on Employment-Based Learning:

1) Prof. Dr. Bertram Lohmüller, Managing Director, Faculty of Sustainability Studies, SGIT - Steinbeis University, Germany
2) Dr. T. Anil Kumar, CEO, Andhra Pradesh Information Technology Academy (APITA)
3) Prof. Dr. G.V.R. Prasada Raju, Vice-Chancellor, JNTU-Kakinada

Dr. Audimulapu Suresh, Hon’ble Minister for Education, Government of Andhra Pradesh delivered the welcome address. Education has undergone significant changes under the visionary, pragmatic and benevolent leadership of Hon’ble CM Shri. Y.S. Jagan Mohan Reddy garu. The focus is to enhance the infrastructure of HEIs and the learning outcomes of the students. Skill-based learning, internship-based learning, and employment-based learning are the major challenges in front of us. We want to address these problems very strongly. Industry-academia interactions and institutional learnings are very essential for the employability of students. The hands-on experience of the students is very important. Under the aegis of APSCHE and the able leadership of Prof. K. Hemachandra Reddy, we initiated many reforms in line with NEP 2020. We have established Community Development Board through Education to enhance the social responsibility of the students.

We are very happy to collaborate with Germany. Andhra Pradesh has always been at the forefront in providing unique opportunities to students under the visionary leadership of Hon’ble CM Shri. Y.S. Jagan Mohan Reddy Garu. It is an honor to remind you all that Andhra Pradesh is the first state to provide the Microsoft Skills Future Ready Program i.e. to provide skills to 1.62 lakh students across the state free of cost. This is costing around 30 crores rupees to the state government. Our Hon’ble CM views this not as an expenditure but as an investment for future generations. We are committed to providing value-based,
skill-based, technology-based knowledge and education for the students of AP to compete globally.

Dr. J. Syamala Rao, IAS, Principal Secretary to Government of Andhra Pradesh, Higher Education Department delivered the special address. I am very happy to be a part of this Round Table Discussion. This kind of collaboration between APSCHE and the German Varsity for Advanced Studies will bring opportunities not only for the students but also to the HEIs. German universities have achieved unique expertise with their innovative and creative practices in education in general and engineering education in particular. Germany is known for its practical-oriented learning and maintaining quality in its production of knowledge. Germany always stands in limelight for its technical interventions, inventions, and innovations. We are proud to have the strongest and most curious young minds in our state ready to learn and unlearn as needed.

The topic of today’s discussion aptly suggests that this is an era of emerging trends in engineering education. We live in an era of the fourth industrial revolution and we need to make sure that our efforts are in consonance to grab
the opportunities created by disruptive technologies like Artificial Intelligence, Machine Learning, Block Chain, Big Data, etc. We need to understand the optimal usage of these disruptive technologies that will help us in developing innovative solutions to the most complex problems. Skilled Human Resources are the need of the hour to stamp our authority in this fourth industrial revolution of disruptive technologies. The research collaboration between HEIs and Industry is going to be the backbone in bringing innovations into the reach of the common people at an affordable cost. These kinds of collaborations will yield fruitful results for humankind.

I take this opportunity to appreciate Prof. K. Hemachandra Reddy for his commitment and efforts in bringing this event before the students of Andhra Pradesh. I urge all the students watching this discussion, to be quick and innovative learners. Make the best possible use of the opportunities provided by the state government under the visionary leadership of Hon’ble CM Shri. Y.S. Jagan Mohan Reddy Garu.

Prof. K. Hemachandra Reddy, Chairman, APSCHE delivered the session address. This “German – AP Forum on Higher Education” was initiated to understand the “difference in engineering education in India and Germany” and convey this to our students. This discussion aims to bridge the difference between India and Germany in technical education and understand the best practices of Germany. In the first two round table discussions, we focused on the absolute basics like what is engineering, the challenges of engineering education in India, and trends & practices of engineering education in Germany. Both the roundtables are well received in AP.

The topic of the third round table discussion “The Era of Emerging Trends in Engineering Education – Career Opportunities in Germany” couldn’t be more apt than today. This time, along with the major topic, we are going to discuss Skill-based learning, Internship-based learning, and Employment-based
learning. We have three Vice-Chancellors from AP State Universities, three experts from industry, and three esteemed professors from Germany. The government of Andhra Pradesh established a Community Development Board through Education to bridge the gap between society and HEIs. This Board aims to help society with technological interventions and transfers possible from HEIs. This star-studded discussion forum is going to provide invaluable insights to the students and teachers across the state.

I am particularly looking for answers to the following questions from this roundtable:

✓ How can I motivate my students to take up internships?
✓ How can I interact with the industry persistently?
✓ How do we come out of our framework? How do we bridge the gap between industry and academia?
EXCERPTS FROM THE DISCUSSION

Round Table Panel Discussion on Skill-Based Learning

What is your suggestion to Andhra Pradesh in upgrading the curriculum regarding skills and practices keeping in mind the fourth industrial revolution?

Prof. Dr. Ing. Günther Starke:

Our curriculum should be directed toward the needs of the industry. The industry looks for students who are well skilled and well educated and who can solve complex problems using their skills and knowledge realistically. Our projects should be close enough to solve the problems of the industry. The industry expects young employees to have knowledge and skills across disciplines, especially in disruptive technologies.

NEP 2020 recognizes the prominence of skill-based learning. What are the skill courses and best practices adopted by APSSDC?

Shri. K. Ajay Reddy:

APSSDC has focused on upskilling the students in emerging technologies like Artificial Intelligence, Data Science, Cloud Computing, Block Chain, Robotics, Automation, etc. to polish the students and make them industry-ready by the completion of their graduation. We are skilling 2400 students this year with the help of ARC. In line with NEP 2020, we have integrated skill courses with regular academic credit courses from the second year of B.Tech with a focus on outcome-based learning of the students.

What is your opinion on the invention of skill-based credit courses in classical higher education practices and what are they?

Prof. P.V.G.D. Prasad Reddy:

Skill-based learning is an essential thing for today but not a formula for tomorrow. NEP 2020 recommends practical touch to the curriculum which has already been implemented by our state. Skill-based learning is being integrated into the formal curriculum. Recently, I read a report which says that 1.1 billion
job roles are going to be affected by 2030 and 1.1 billion jobs will be created. Disruption is a continuous process and technologies like Automation, Artificial Intelligence, Big Data, Block Chain, Cloud Computing, Data Science, the Internet of Things, Machine Learning, Robotics, etc. are the new norm.

What practices should HEIs adopt to bring more value addition to their students?

Prof. Dr. Ing. Günther Starke:
HEIs should add online lectures to their curriculum-related practical work. Online labs and online demonstrations with online lectures could be run to increase the practical learning of the students. Simulation scenarios can be created for students to learn by doing. HEIs should focus on the continuous upskilling of their faculty.

What kind of strategies should be formulated to reduce the skill gap as outlined in the university curriculum?

Shri. K. Ajay Reddy:
There should be collaborations between HEIs and industry (especially local industry) to provide industry demanded courses to the students which aren’t part of the regular curriculum. APSSDC is implementing domestic industry consultation and conducting job fairs with employment-linked training. HEIs should adopt a blended skilling program and competency-based learning for the students to reduce the skill gap.

What paths should HEIs follow to grab the maximum value addition from international skill-based courses?

Prof. P.V.G.D. Prasad Reddy:
There are multiple paths and formal education isn’t the only path. Skill-based education is a norm outside formal education, the reason being the skill gap. Many MNCs have launched their micro-credential skill programs along with the jobs for their employees which have become immensely useful to their
employees. Policymakers and HEIs should give prominence to skill-based learning. We have many virtual platforms in India like Bharatskills, e-skill India, NASSCOM future skills, NPTL, Swayam, and Swayam Prabha which provide skill courses and provide training in niche domains to students who have no formal education. There are many international platforms like edx, course era, LinkedIn, etc. that provide training in disruptive technologies. Students and HEIs must make use of these platforms to grab the maximum value.

**Round Table Panel Discussion on Internship-Based Learning**

What are the major suggestions and standards you indicate while making internships mandatory? How do students benefit from internship-based learning?

**Prof. Dr. Ing. Dirk Jacob:**
We have mandatory internships in our UG programs. Students stay completely in the industry as part of their mandatory internships where they learn the skills required for the industry. They focus on the skills required for the industry once they come back to college. Internships help the students to focus on their goals in the industry.

*Please share your inputs the graduates and the colleges should possess to achieve the current industry needs concerning your recent success in the Kopparthy electronics cluster.*

**Shri. Nanda Kishore Reddy:**
Recently, we came up with an electronic policy and we got a fair success. Six organizations have come to the Kopparthy cluster and they have started operations. Most of these industries are assembly lines. Skilling is very significant to achieve jobs in these industries which is their indispensable need. Internships play an important role in learning these skill sets.
What challenges do you envisage in providing internships to all the students when the population of students is increasing day by day?

Prof. G. Ranga Janardhana:

Internships should be planned in such a way that they should be in sync with the calendar of the industry. There should be a formation of an Industry Advisory Board in every department with the help of the Placement Cell to improve the internship opportunities for students. Involvement of faculty members as mentors and seeking feedback from the industry regularly will increase the opportunities. A structured action plan should be formulated to map the needs of the industry by the academia. Micro internships should be provided to students at college to improve their problem-solving skills.

What measures have you taken to maintain German quality standards in Bachelor’s degree program you have installed with the Chinese innovation region university at Schengen? Is it possible to have a bilateral exchange with the universities of Andhra Pradesh?

Prof. Dr. Ing. Dirk Jacob:

The main focus set of the program was to harmonize the curricula on applied sciences. We focused to work with cooperation from the industry and clearly defined the learning outcomes of the program. The students have an opportunity to go for exchange either for a semester or an industrial internship with harmonized courses for the students of China and Germany. We have set up online courses where German students can join Chinese courses and vice versa. It is possible to build that cooperation with the universities of Andhra Pradesh.

What is your opinion on internship-based learning? Do students need hands-on experience before their concrete job career?

Shri. Nanda Kishore Reddy:

Absolutely yes. Students need hands-on experience before their employment. Industry always looks for the right kind of people with the right skills. Not only industry but also the government sector looks for skilled professionals. There is
a gap between the expectations of industry and the reality of academia. Internships can play their part in bridging this gap. There is a requirement for internship-based learning in the government sector also.

What should be the evaluation criteria and standard operating procedures for the virtual internships?

Prof. G. Ranga Janardhana:
Virtual internships are one way of providing internships to a large number of students. The use of real-world activities will be helpful to build practical learning for students. Simulation scenarios, case studies, project-based learning, online practical training, interpretation of data work, use of live sessions, quizzes, virtual Q&A, and apt usage of review technology will be good enough to evaluate virtual internships.

Round Table Panel Discussion on Employment-Based Learning

What are your suggestions to the Indian ecosystem on adapting employment linked to higher education which is very much successful in Germany as dual study?

Prof. Dr. Bertram Lohmüller:
The challenges are very similar in linking academic projects with industry be it in Germany, Africa, or India. The curriculum should be aligned to the changing needs of the industry and it should be developed with industry experts. Train faculty to support students in their project work. There should be continuous communication between industry, academia, and people. Industries should be convinced to cooperate and work with the students. The government of Andhra Pradesh is transforming higher education in the right way.

We have seen many organizations recruiting students in their final year and giving work as paid internships. What are your suggestions and observations of this process? Could you please elaborate on the initiatives of APITA?
**Dr. T. Anil Kumar:**

Today, we have close to 200 engineering colleges and 200 degree colleges registered with APITA. There are 55,000 students directly associated with APITA. We have been training all these students in emerging technologies. APITA is in discussions with major IT companies to provide internships to students. We have come up with a career accelerator program for students. We are in discussion with CSR organizations to provide CSR internships for students.

*How best can we adopt internships, skills, and project work to the university curriculum to achieve better results in employment-linked higher education?*

**Prof. Dr. G.V.R. Prasada Raju:**

Skill-based education is very essential for the employability of students. Learning by doing is key for the students which differentiates theory from practice. Skill-based training is a job-oriented course that doesn’t need formal education. Academia has to be open enough to embrace the curriculum of industry. The government should form policies to bring academia and industry together where students get apprenticeships & internships easily. Indo-German collaborations will lead to brighter and better tomorrow.

*You are inviting Indian students to start their employment in German MNCs while pursuing their Master’s degree in Germany? What is that program and how can our students take part in that program?*

**Prof. Dr. Bertram Lohmüller:**

We are starting a program in India which is called “Pre-Master India” where students can work in Germany directly after their B. Tech and pursue their Master’s. This is a six-step program. The focus of this program is to bring theory into practice. Students should have an understanding of German culture and the German language (Level B1) to work with German companies.
What are your suggestions to HEIs to achieve these kinds of international opportunities as mentioned by Prof. Dr. Bertram Lohmüller? What kind of support can we expect from APITA?

Dr. T. Anil Kumar:
We are working on that model currently. We will provide our complete support to the students. We are trying to start dual degree programs also. We can take it forward if it is accepted on a credit basis under the guidance of APSCHE.

What kind of training and adoption should students be provided to catch the changing needs of the job market? Could you please throw light on the multi-skilling methodology?

Prof. Dr. G.V.R. Prasada Raju:
The multi-skilling methodology (core skills, soft skills, and life skills) is very important for students to be employable. Students require multiple trainings to excel globally.

Please scan the above QR code to watch the complete discussion.
FOURTH ROUND TABLE DISCUSSION GERMAN – AP FORUM ON HIGHER EDUCATION

Topic: Exploring the RECENT Challenges and Opportunities for Engineering Graduates in Germany

What recent major breakthroughs are attributed to engineers in improving the quality of our everyday lives?

SESSION ON 28TH FEBRUARY 2022
03:00 PM - 04:00 PM IST (10:30 AM - 11:30 AM CET)

Register: https://bit.ly/36WQeol

Session Link: https://youtu.be/xtp6wXbWwQo
FOURTH ROUND TABLE DISCUSSION (4th RTD)

APSCHE conducted the fourth Round Table Discussion of the “German – AP Forum on Higher Education” in association with the German Varsity for Advanced Studies and Indo-Euro Synchronization on 28th February 2022 i.e. Monday on the topic “Exploring the recent challenges and opportunities for engineering graduates in Germany”. Prof. K. Rama Mohana Rao, Vice-Chairman, APSCHE delivered the keynote address. The discussion was moderated by Mr. V. V. N. Raj, Executive President, German Varsity for Advanced Studies.

The following are the honorable speakers for the Round Table Panel Discussion

- Prof. G.V.R. Srinivasa Rao, Director, RGUKT, IIIT Nuzvid, Andhra Pradesh, India
- Prof. Dr. Anna Mozzhukhina, Head - Academic Projects Cooperation Alliances, Export Academy Baden-Württemberg, Steinbeis University, Germany
- Dr. Nastja Pusic, Head - Business Development & Partnerships IU, Germany

Prof. K. Rama Mohana Rao, Vice-Chairman, APSCHE in his opening remarks mentioned that the first three round table discussions focused on understanding the scenario of Science & Technology and engineering in Germany. The state of Andhra Pradesh is producing around 1.5 lakh graduates every year. We are looking for opportunities in higher education and employment for the students of Andhra Pradesh. The government of Andhra Pradesh has accorded the highest priority to producing high-quality graduates equipped with relevant skills and competencies. We are part of the fourth Industrial Revolution driven by digitization. The problems we are facing today in the 21st century can be handled by engineering education. There is no discipline in the world without integrating with engineering. The aspirations of our youth are changing drastically and dramatically. We have to make them self-reliant. Micro-level competencies of
our students should be developed. Long-term and life term employment may disappear in the coming future and replace by the gig economy. We need to skill our engineers to utilize their competencies matching with future employment opportunities. Germany is a superpower in technology and made a name for itself in the world. We are looking for collaborations in research, innovation, incubation, student exchange programs, and entrepreneurship with German HEIs. Our government is committed to enduring the relationship with Germany.

EXCERPTS FROM THE DISCUSSION

What are the unique practices adopted by IIT Nuzvid (RGUKT) to transform students into globally employable graduates?

Prof. G.V.R. Srinivasa Rao:
The basic objective of creating RGUKT (popularly known as IIIT) is to empower rural youth. We take the students from rural areas and those students are trained here. We train them for two years in the pre-university curriculum and the next year they are trained on specific branches of engineering based on their interests and talents. Out of 141 teams that got selected for the international competition, seven teams are from our college. These seven teams are working on improving agriculture using microprocessors. Out of 6700 teams participating in the
Aatmanirbhar Bharat program, we are in the fourth position currently and we are in the final round now. We are strong in materials and technology also. The average age of our faculty is 30-32 years.

What is the current skill demand in Germany?

Prof. Dr. Anna Mozzhukhina:
There are 100,000 jobs for IT professionals are currently vacant in Germany. Two out of three German companies are looking for a skilled IT workforce i.e. software developers, IT project managers, software architects, project coordinators, application administrators, big data experts, data protection professionals, etc. Around 40,000 IT jobs will be probably created this year. Indian students have a great chance to get a great position while studying their job-oriented Master’s program in Germany. They can make their CV look very strong after finishing their project-oriented Master’s program. They need to learn the German language for their day-to-day usage.

How is your university achieving excellence with the online degree programs?

Dr. Nastja Pusic:
HEIs across the globe are facing a large disruption. Our programs are designed in such a way that offers flexibility where students can learn, work and gain practical experience at the same time. At the moment, we are catering to over 85,000 students and we have learned how to provide the best environment for students that will help them to learn skills and make them employable.

What are your suggestions to our students to exploit the international career opportunities?

Prof. G.V.R. Srinivasa Rao:
Many Indian students are not going abroad, not because of a lack of enthusiasm but due to financial constraints. My understanding about foreign universities is that students can earn while they are studying. Most of our Indian students don’t
have proper awareness about the opportunities in foreign universities. Most Indian universities are traditional where we offer structured programs. Now, we are adapting and offering minor programs. Similarly, RGUKT is starting minor programs. We have already introduced minor electives and open electives. We are working on MOOCs also.

*What are the eligibility criteria for a student to pursue an employment-linked Master’s program in Germany? What are the companies associated with you and are ready to provide this opportunity to Indian students?*

**Prof. Dr. Anna Mozhukhina:**

These are the general requirements for a student to pursue a Master of Business Engineering or M.Sc. Industrial Engineering or M.Sc. Business Informatics:

- A student should have studied engineering or bachelor’s in computer science
- GPA should not be less than 2.7 in the German grading system and approximately 75% in the Indian grading system
- Documents should be well prepared and submitted

Several interviews must be completed successfully. The first one is the ‘Contact Interview’ about a clear understanding of the program. The second is an online personal interview with Steinbeis University. After that, the student receives a pre-conditional offer letter. After getting a pre-conditional offer letter, students start focusing on their German language course. Steinbeis University offers courses in intercultural management and international management in the first semester. To get an offer, a student has to participate in several online interviews with various companies. Steinbeis University will arrange the company interview during the first semester. Six well-known
companies will offer this fellowship Master’s program. They are Mercedes, Siemens, Datev, SEP Software Corporation, Magna Steyr, and Salesforce. These companies need talented IT skilled employees. Students from India have an opportunity to get a job offer from these companies and start their project-oriented Master’s program at Steinbeis University.

What is your observation of Indian students during their application process and their studies in Germany? What are your suggestions to Indian students to make their careers successful?

**Dr. Nastja Pusic:**

The mission of IU University is to make high-quality education affordable and accessible at any time anywhere for anybody. Modern-day studies require a lot more independent work. We enable the students to start studying immediately without waiting for the start of a semester by submitting their applications. We offer one of the highest and greatest scholarships to students across the globe to start studying with us. They can start studying online and they can transfer their studies from online to on campus. Germany allows students to work 20 hours a week while studying and our program is designed similarly. We at our university offer career support to students throughout their semesters. There are around 7000 companies offering internships to our students.

![QR Code]

*Please scan the above QR code to watch the complete discussion*
FIFTH ROUND TABLE DISCUSSION

GERMAN – AP FORUM ON HIGHER EDUCATION

TOPIC: GERMAN METHODOLOGY FOR IMPROVING INDUSTRY - ACADEMIA PRACTICES

Vocational and Classical University Models
Employment Opportunities for Engineers in Emerging Technologies

31ST MARCH 2022 | THURSDAY | 03:00 PM - 04:00 PM IST

Key Note Address:
Prof. K. HEMACHANDRA REDDY
Chairman, Andhra Pradesh State Council of Higher Education

Session Chair:
Mr. V.V.N. RAJ
Executive President, German Varsity
Founder - Indo Euro Synchronization

PANELISTS

Prof. N.V. Ramana Rao
School of Planning and Architecture, Vijayawada

Prof. P.V.G.D. Prasada Reddy
Vice Chancellor, Andhra University

Dr. Rainer Sterrer
Founder CEO
ITQ Green Island Makoathon

Prof. Alexander Pollack
International Program Director, RFH Köln University
FIFTH ROUND TABLE DISCUSSION (5TH RTD)

APSCHE conducted the fifth Round Table Discussion of the “German – AP Forum on Higher Education” in association with the German Varsity for Advanced Studies and Indo-Euro Synchronization on 31st March 2022 i.e. Thursday on the topic "German methodology for improving Industry-Academia practices: Vocational & classical university models, and Employment opportunities for engineers in emerging technologies". Prof. K. Hemachandra Reddy, Chairman, APSCHE delivered the keynote address. The discussion was moderated by Mr. V. V. N. Raj, Executive President, German Varsity for Advanced Studies.

The following are the honorable speakers for the Round Table Panel Discussion

- Prof. N.V. Ramana Rao, Director (i/c), School of Planning & Architecture, Vijayawada, Andhra Pradesh, India
- Dr. Rainer Sterrer, Founder & CEO of ITQ Green Island Makeathon, Germany
- Prof. Dr. Alexander Pollack, International Program Director, RFH Köln University, Germany

Prof. K. Hemachandra Reddy, Chairman, APSCHE in his opening remarks mentioned that everyone compliments German Higher Education for their perfection and industry-academia interactions. German HEIs practice the right blend of theoretical & practical learning. We thought of developing the same system here and a discussion forum was established where experts share their ideas for a roadmap for the state of Andhra Pradesh. In the first four round table discussions, we focused on the absolute basics like what is engineering, the challenges of engineering education in India, and trends &
practices of engineering education in Germany. In the last round table discussion, our colleagues from Germany guided us on the required path to pursue a Master’s in Germany (Pre-Masters India Program) and a unique career in advanced countries like Germany. This is going to motivate and help the students of Andhra Pradesh in an unprecedented way where our students have a great opportunity to work in Mercedes, SAP, Salesforce, etc. in Germany.

Based on these round Table Discussions, 300 students registered with ‘German Varisty for Advanced Studies’ showing their interest to pursue their Masters’ in Germany. In the last roundtable discussion, we discussed the topic “Exploring the recent challenges and opportunities for engineering graduates in Germany”. Today, we are going to discuss Vocational Education and the ways to improve academia-industry interactions. APSCHE revised and redesigned the curriculum to include a 10-months mandatory internship for the students. The government of Andhra Pradesh has taken the complete responsibility of providing internships to the students. Today I am looking forward to the suggestions on how best can I revitalize the Higher Education ecosystem in the state that is appreciated by the global HEIs?
EXCERPTS FROM THE DISCUSSION

Until now, we focused on technical and engineering education. However, Architecture and Europe have a strong bond similar to India. What are your inputs to Architecture studies to achieve excellence in German-India Education?

Prof. N.V. Ramana Rao:
This is a very good question. The German model is based on the unique way of experiential learning i.e. learning by doing. Europe and India have a rich tradition of heritage buildings. The responsibility to protect and conserve this piece of history exists in the architectural education of both countries. The rise of open economies has had an impact on the new language of corporate architecture yet has not undermined the historic buildings. This context is very similar in both countries. The similarities of context and the design in Germany and India are so strong that only a question of collaborating at whichever point of a spectrum that any two educational institutions from both countries want.

You have vast experience in building new degree programs. What are your suggestions to the current faculties and university experts to build the degree programs with a German-India perspective in higher and vocational education?

Prof. Dr. Alexander Pollack:
The first thing you have to do when you start a new study program is to listen very carefully to the requirements of the industry. We have an Advisory Board and Advisory Council where representatives from several companies are present. We try to prospect the future requirements and future qualifications very carefully. We have a lot of part-time students. We don’t have a strict difference between the practical work in the company and the study in college which is unique to Germany. The education system is much more permeable and integrating. We have vocational education on hand and higher education on the other hand which are very close. There is a lot of gap between theoretical education and practical education not only in India but also in many countries.
I have seen you bringing more than 500 students to Grand Canarian Island to make them work on industry issues. Gathering those many students and getting funding to organize such a vast event is a challenging task. What is your idea of taking such a unique initiative and, what is your perspective on making them industry ready through this process?

Dr. Rainer Sterrer:
The game of the future is the vast combination of the different disciplines like Mechanical + Electrical + Software. It is very important to bring all these fields together by erasing the difference between their silos. People have to work in interdisciplinary teams and international teams in a very compressed way like a boot camp. It is a very intensive way of learning. Germany is under great pressure for innovations. We want innovations in storing renewable energy. The industry is integrated with innovations. There is a need for Industry-Academia Board.

What models and methods would you suggest your institution & students emulate from Germany? What are your inputs to a German university and Industry partners if they would like to partner with you?

Prof. N.V. Ramana Rao:
The German model of multidisciplinary education and breaking the boundaries between disciplines are very good. Research in Germany is industry-driven i.e. industry poses the problems and solutions are offered by the academia. The same model can be adopted here in India. It’s lifelong learning for both industry and academia. NEP 2020 talks about multiple entries and exits that should be implemented in spirit. The gap between theory and practice should be eliminated which is only possible by adopting the German model of industry-driven research. The initiation of Makeathons is an amazing idea to ignite young minds.
What are the different disruptions happened over the years in German vocational education methodologies? What are your suggestions to achieve Academic-Industry excellence in the era of digitization and Industry 4.0?

Prof. Dr. Alexander Pollack:
To bring together academia, theory, practical work, and industry, we created ‘Study & Work’ programs. Students stay at the university for 2-3 days and they work in the industry for 2 days. They directly transform their knowledge into practice every week. They keep one foot in the company and the other foot in the university. The corona crisis coerced us to shift towards online teaching which was quite challenging. The benefit of this is that the students are continuing with online education by avoiding long travel. They can study from their office desk in the company. This is the perfect time to find the right blend of virtual learning and in-person learning i.e. a hybrid model.

You are one expert, having received Dr. from esteemed TU Munich and you focused on software applications for esteemed companies like BMW, AUDI, etc. What are your suggestions to core engineering students to get their desired jobs and employment in Germany? What do you see in Indian applicants who want to join your makethon or get an internship/employment in your group of companies?

Dr. Rainer Sterrer:
People have to be proactive to work with German companies. Most companies are looking for interesting people to join them in virtual events. Some proactive talking with the people on virtual events can be helpful. They can join some online courses and events.

Please scan the above QR code to watch the complete discussion
SIXTH ROUND TABLE DISCUSSION

GERMAN-AP FORUM ON HIGHER EDUCATION
26th April 2022 (Tuesday) | From 02:00 PM - 4:00 PM (IST)

TOPIC: GERMAN - INDIA, SKILL BASED AND HIGHER EDUCATION COOPERATIONS
German Tech adoption in Indian curricula and employment and internship opportunities for AP students in Germany

Welcome Address
SIR. RAJIV SASTRY
Honorable Minister for Education
Andhra Pradesh

Special Address
DR. B. STANALA K.S. RAO
Director, Yadavindra College of Higher Education,
Andhra Pradesh

Session Chair
MR. Y. K. N. RAO
Executive President, German Varsity
Founder - Indo Euro Synchronization

Session Adress
PROF. K. NANDA KUMAR REDDY
Profession
Andhra Pradesh Board of Education

Session Adress
PROF. M. GANGU RAO
Professor
Andhra Pradesh Board of Education

Session Adress
PROF. M. BALRAM
Professor
Indian Institute of Science Education and Research

Session Adress
PROF. P. SABRA SDON
Director
VIT University, Chennai

Session Adress
PROF. N. B. PRAKASH
Professor
Visvesvaraya Technological University

Session Adress
PROF. R. S. S. NARAYAN
Professor
NIT Rourkela

Session Adress
PROF. R. S. S. NARAYAN
Professor
NIT Rourkela

Session Adress
PROF. S. S. B. RAO
Professor
Indian Institute of Science Education and Research

Session Adress
PROF. S. S. B. RAO
Professor
Indian Institute of Science Education and Research

Session Adress
PROF. S. S. B. RAO
Professor
Indian Institute of Science Education and Research

Session Adress
PROF. S. S. B. RAO
Professor
Indian Institute of Science Education and Research
SIXTH ROUND TABLE DISCUSSION (6th RTD)

APSCHE conducted the sixth & the last Round Table Discussion of the “German – AP Forum on Higher Education” in association with the German Varsity for Advanced Studies and Indo-Euro Synchronization on 26th April 2022 i.e. Tuesday on the topic "German – India Skill-based and higher education cooperation: German tech adoption to Indian curriculum, and employment and internship opportunities for AP students in Germany". Prof. K. Hemachandra Reddy, the Chairman of APSCHE delivered the session address. The discussion was moderated by Mr. V. V. N. Raj, Executive President, German Varsity for Advanced Studies.

The following are the honorable speakers for the Round Table Panel Discussion on Skill & Vocational Models

1) Prof. Dr.-Ing. Günther Starke, Research Director, European Center for Mechatronics, FH Aachen University, Germany
2) Prof. K. Rama Mohana Rao, Vice-Chairman, APSCHE

The following are the honorable speakers for the Round Table Panel Discussion on Undergraduate & Postgraduate Models

1) Prof. Dr. Anna Mozghuhkina, Head - Academic Projects Cooperation Alliances, Export Academy Baden-Württemberg, Steinbeis University, Germany
2) Prof. M. Surya Kalavathi, Vice- Chancellor, Yogi Vemana University, Andhra Pradesh
3) Prof. S.V. Kota Reddy, Vice-Chancellor, VIT, Andhra Pradesh
The following are the honorable speakers for the Round Table Panel Discussion on Internship & Employment Models

1) Prof. Dr. - Ing. Dirk Jacob, Vice President, Faculty of Robotics, University of Kempten, Germany
2) Prof. K. Raja Reddy, Vice-Chancellor, Sri Venkateswara University, Andhra Pradesh
3) Prof. V. Sambasiva Rao, Vice-Chancellor, SRM University, Andhra Pradesh

Prof. K. Hemachandra Reddy, Chairman, APSCHE in his opening remarks mentioned that the preliminary idea of these Round Table Discussions is to establish a firm linkage between the HEIs of Germany and Andhra Pradesh. Germany has become a favorable destination for our students for their practical learning and innovation embedded curriculum. We took a few measures like 10 months mandatory internship for students. We have established Quality Assurance Cell (QAC) to handhold all 2900 HEIs and 1.4 million students pursuing their higher education. 400000 students are pursuing their engineering in Andhra Pradesh alone. A lot of knowledge has been exchanged through these discussions in the last 6 months. We are trying to formulate policies at the institution level giving importance to innovation and practical learning. We have established around 537 innovation and incubation centers in our colleges in the last 2.5 years.

Our Hon’ble Minister for Education and Principal Secretary for Higher Education conveyed their sincere thanks to Germany for their contributions. I am very happy to share that the German professors offered the learning material to our students. All these RTDs are very dear to us and very valuable to us. We are trying to integrate the valuable inputs into our curriculum. It was an enormous learning experience for us from RTDs. We would like to take advantage of all the
RTDs. We have rolled out MS Upskilling Program for 1.62 lakh students taking a cue from these discussions. I thank my German counterparts for inspiring us to start something new. 15,000 registrations from students for employment linked Master’s Program in Germany is very encouraging. We are trying to design the concept of ‘Summer Schools’ and implement it soon in AP. We will continuously strive to fine-tune our Higher Education system. We are exploring all the possibilities to collaborate with our German counterparts.

EXCERPTS FROM THE DISCUSSION

Round Table Panel Discussion on Skill & Vocational Models

What kind of practices do you consider while designing a course/program in German universities?

Prof. Dr. Ing. Günther Starke:

We consider two things while designing a curriculum i.e. what does a student require in industry and what are the current trends in technology. We integrate with the industry i.e. we network with industry and build bilateral relations with industry. Students can learn theory from university and in parallel learn practical work from the industry. We give a chance to students to concentrate especially in practical work/project work. Our students visit foreign countries to learn beyond
their curriculum where they get fundamental knowledge about the trends in technology. New technologies are coming i.e. industry 4.0 and we have to consider these new technologies. The digital revolution will influence our behavior, industries, and opportunities for our students. We should install ‘Skilling 4.0 Education Initiatives’ in our universities focusing, especially on the emerging top technologies. Student awareness needs to be considered while preparing the curriculum.

What measures do we need to take in preparing curricula in India to reach international excellence? What can be improved?

Prof. K. Rama Mohana Rao:
We at APSCHE are aiming to erase the boundaries of higher education between Andhra Pradesh and the rest of the world, especially developed countries. We want to rise to match the global standards in higher education. We have initiated a mandatory 10 months internship for students to improve their practical learning. The GER of AP is 35.2 whereas the national average is 27.1 only. We have highly enthusiastic students in our state. The aspirations of students are increasing every year. We are designing the curriculum but the gap is how we can translate the curriculum into skill training and skill acquisition by the students. We are looking at a country like Germany that has set high standards in different sectors acceptable to the industry. We want Germany to help us in making students skilled and confident enough to face the current and future global challenges. We have skilled human resources but we need methodology and technology. India can contribute value systems and ethics embedded in our culture to the rest of the world. The students of Andhra Pradesh require communication skills and cross-cultural skills. We welcome German students and faculty to Andhra Pradesh to visit our oldest and best universities where they learn the merits of our system. Let us collaborate for a win-win situation where we learn and grow together.
Round Table Panel Discussion on Undergraduate & Postgraduate Models

What changes need to be happened to attract international migration of students to your university and provide opportunities to your students for international migration?

Prof. M. Surya Kalavathi:

APSCHE has already redesigned the skill-focused curriculum giving utmost importance to practical learning. We are gradually moving towards NEP 2020. The current generation is privileged to have a plethora of global opportunities for higher learning with a wide range of access to world-class universities to pursue higher education in their interest areas. Every country focuses on education and it is the only remedy to eradicate all the social evils. The thrust is to maintain the high standards and quality in the HEIs and attract students across the globe. This phenomenon of global exchange is welcoming as it facilitates mutual learning and bilateral cooperation. The academic cooperation between India and Germany will go a long way in improving the potential required to solve global challenges.

How can Indian students benefit from the employment-linked Master’s program? How should they pursue this program?

Prof. Dr. Anna Mozzhukhina:

There is an excellent opportunity for Indian students to study and work at the same time in Germany i.e. employment-linked Master’s program. We at Steinbeis University offer fully job integrated study programs. Students get to work on real-time projects in the companies as Junior Consultants or Junior Project Managers during their Master’s Programs. Students develop theoretical and practical experience during their studies. Students are supported by international faculty and university faculty. We offer M.Sc. Business Engineering, M.Sc. Industrial Engineering, and M.Sc. Business Informatics.
What are your inputs for HEIs to excel in the international arena and what changes need to be adopted after this pandemic?

Prof. S. V. Kota Reddy:

We should focus on a Skill-based curriculum. We should provide opportunities to students to work in an industry which should be part of their curriculum. They should do at least a 2-months summer internship. Engineering students should dedicate their 8th semester only to internships. As NEP 2020 says, future education should be multidisciplinary and skill-based. We can have a student and faculty exchange program with the German universities. We should have industry collaborations globally for providing opportunities for students, especially for advanced certifications. We should focus on training the teachers. At VIT-AP, we started the ‘Centre for Teaching and Learning’ to train our faculty. We can send our faculty members to the industry for a 2-months paid summer internship. In this way, faculty gain experience in the industry and they can impart that skill to the students.
Round Table Panel Discussion on Internship & Employment Models

In your perspective, what should be done to improve the cooperation with Germany? What are your observations?

Prof. K. Raja Reddy:
German technology has great demand and is very much welcomed in India. We want to develop skilling in students so that they get employed in a better way. Our students are very much interested to go to Germany for their Higher Education. We want to host German student groups at our University for interaction. We would like to adopt a few courses from Germany like Automotive Ethernet, Adaptive Auto-SAR, Design Thinking, etc. in our Sri Venkateswara University. We foresee student and faculty exchange programs with the German universities for greater learning and cooperation. This will enhance the employability prospects also. Currently, we are training our students in Mechatronics. We foresee cooperation and collaboration from Germany in this area of study. We foresee new MoUs with German Universities for summer internships.

You have an enormous experience in the internationalization of education, what are your inputs, as a front runner in the private university, for HEIs to excel in the international arena, and what changes need to be adopted?

Prof. V. Sambasiva Rao:
There are various models of internships across the world. Germany is a leader in Vocational Education wherein education is integrated with work from the beginning. Many committees since the 1960s have emphasized internships & skills. However, those recommendations were not adopted in India for several reasons. We adopted an internship model from MIT Boston. BITS Pilani collaborated with MIT Boston in 1964. One such experiment they tried
in India was to implement that internship called “Practice Schools” in their terminology.

Essentially it is to apply whatever you learn in the classroom to real life. What started as an experiment with a batch of 10 engineering students and 04 engineering faculty 50 years ago has now become a very vast network encompassing several thousands of industries. More than a hundred thousand students have gone through this internship. This actually gave BITS Pilani for catapulting itself into a new orbit and generating huge resources for its expansion not only in India but also in Dubai. We should design collaborative degree programs and provide internship opportunities in Germany. We should provide industry immersion to both faculty and students. This has a multiplier effect. The faculty can bring real-life experience to the classroom.

What would you suggest to the Indian universities to achieve the international value-addition from the German universities? What should they do to be ready?

Prof. Dr. - Ing. Dirk Jacob:
Our students are interested in going abroad and achieving new skills abroad. They love to learn technical skills and international skills like learning about foreign countries, culture & companies. For our students to go abroad, the host university/nation should have a clear program on how they can go to Indian universities for a semester or two semesters and live & learn from India. There should be open possibilities for that. We have a 6-months internship as a standard integrated into all our UG courses. Every student has to do this 6 months internship.

For internationalization, students are interested to do an internship abroad. There could be also a possibility for Indian universities to offer one semester
in university and one semester to work in an Indian company or an Indian subsidiary of a German company. Apart from the standard internship of 6 months, we also have an academic study with an intensive in-company training which means students stay in a company and learn from the company. We also have an academic study combined with vocational training. The students start to have vocational training in the company one year before they start studying at university. By the end of 4.5 years, they kind of have a dual degree. On one hand, they are skilled workers with vocational training and on the other hand, they have their Bachelor’s degrees. Another thing is to have good networking with companies. Every professor must have three years of industry experience before they start teaching.

Please scan the above QR code to watch the complete discussion
Major outcomes from the 6 RTDs

The following are the major outcomes from the six Round Table Discussions (RTDs)

❖ Bilateral discussions with JNTUK and Kempten university

❖ Exploring opportunities to create a bilateral dialogue between AU & KF Reutlingen University

❖ Employment linked Master’s Program with Steinbeis University

❖ Online degrees & Nano Master discussions with IU- Germany

❖ Virtual credit-based courses are being planned with experts from RFH Koln University

❖ A student from SRM-AP has been invited to MASKOR-FH Aachen University as part of the project exchange. Master admission awarded at several German universities

❖ The ideation of summer schools at AP universities has been conceptualized

❖ Conducted awareness lectures on pursuing employment linked Master’s Program in Germany to the students of AP i.e. pursuing their Masters while working in the top German companies like Mercedes, Porsche, SALESFORCE, SAP, etc.

❖ 15,000 students have registered themselves for the employment linked Master’s Program through the Round Table Discussions (RTDs).
“German-AP Forum on Higher Education” in news

1st RTD (05.11.2021)
2nd RTD (10.12.2021)

3rd RTD (21.01.2021)
Meet explores career opportunities for A.P. students in Germany

Bilateral cooperation between varsities discussed

SPECIAL CORRESPONDENT
VIJAYAWADA

The Andhra Pradesh State Council of Higher Education (APSCHE) on Friday conducted the third round of the roundtable German-AP Forum on Higher Education on the topic ‘The Era of Emerging Trends in Engineering Education-Career Opportunities in Germany’ in virtual mode.

The APSCHE, in partnership with the German Varsity for Advanced Studies and Indo-Euro Synchronisation, had created a platform to promote higher education. The German-AP Forum on Higher Education proposed a roundtable action plan for six months (initiated on November 5, 2021) to improve standards and international opportunities for students of Andhra Pradesh.

Education Minister Adimulapu Suresh was the chief guest while Principal Secretary, Department of Higher Education J. Syamala Rao and APSCHE Chairman K. Hemachandra Reddy spoke on various key aspects.

The session focused on providing access to students to the employment-linked higher education opportunities in Germany to the students of Andhra Pradesh and exploring the best practices of Germany which could be adopted in the engineering education of the State. The primary objective is to forge research cooperation, bilateral coordination and collaboration for Joint degree programmes between the universities of Andhra Pradesh and Germany.

The roundtable mainly discussed three aspects of learning — skill-based learning, internship-based learning and employment-based learning.

Research Director at European Centre for Mechatronics, FH Aachen University, Germany Prof. Ing. Gunther Starke, Chairman of Andhra Pradesh State Skill Development Corporation K. Ajay Reddy and Andhra University VC P.V.G.D. Prasad Reddy spoke about skill-based learning.

Vice-president, faculty of Robotics, University of Kempten, Germany Prof. Ing. Dirk Jacob, Andhra Pradesh Electronics and Information Technology Agency CEO Nanda Kishore and VC of JNTU-Ananthapur G. Ranga Janardhan threw light on internship-based learning.

Mr. Hemachandra Reddy said the discussions stressed on a curriculum directed towards addressing the needs of the industry, multi-sectoral cooperation of different branches of engineering, upskilling students in emerging technologies, skill-based learning integrated to formal learning and stimulation scenarios to get practical learning.

Blended skill-based programmes, competition-based learning, establishment of Industry Advisory Board in each department, virtual internships, micro internships, linking local projects with the industry were the key takeaway points from the discussions, he said.

4th RTD (28.02.2021)
6th RTD (26.04.2021)
Student Connect Initiatives...

APSCH E has commenced a few Student Connect Initiatives for expanding the knowledge base and developing the critical thinking of the students of Andhra Pradesh.