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BSDU NEWSLETTER

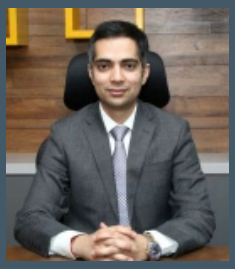
School of General Education

Editor's Desk

Wishing you all a very Happy New Year-2022!
We are back with yet another issue i.e the 8th issue of the BSDU Newsletter which is a witness to the various scholarly activities, events and celebrations in our happening campuses as a result of the unflinching mentorship from the Management, invincible spirit of Faculty fraternity and the steadfast enthusiasm of our dear Students.
Carrying forward the legacy of excelling in Skills and Academics, on the one hand, the students have brought laurels to BSDU by winning Gold and Silver medals in the Skill competitions held at the Regional level and the National Level Competition paving way towards the world Skills competition. On the other hand, 3 Research Scholars have successfully completed their doctoral research, thereby establishing the versatility of BSDU in imparting Education , taking BSDU to new horizons.
We take this opportunity to congratulate our dear students who have made BSDU proud and also glimpse you through the activities and events held on the digital platform and in the campuses as well through this issue of BSDU Newsletter. The enriching articles from our faculty and trainers satiating their creative interests add yet another dimension to this Newsletter.
We hope you enjoy going through the newsletter!

Dr. Sangeetha Noval
Head, School of General Education

Skill Education: Futuristic Education



Mr. Abhishek Joshi
Director, RUFIL

Congratulations BSDU on bringing out the 8th issue of the Newsletter!

The year 2021 has been a challenge for all of us. The devastating COVID-19 crisis has affected our families, friends, colleagues and associates. Like other social and professional institutions, education and training too have not remained unaffected by this pandemic and measures like social distancing have caused unprecedented disruption to all. Now, it is time to map a vision for how the education sector can emerge stronger and abler from this global crisis.

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Highlights

From the hunter-gatherer societies to early civilizations, and then to modernity, people have grappled with the key question as how to best prepare the youth for a successful future. Mastering only theoretical knowledge is not sufficient in the current age of the internet. Today's world and the changes expected in the near future require education to prepare the youth for a world of rapid changes in technology, increasing interconnectedness, and new forms of employment. Hence, the need of the hour is to equip them with the required skills and competencies cultivated through best practices to fit into the modern scenario.

Prospering in today's fast changing world requires extensiveness of skills rooted in academic proficiencies such as literacy, numeracy and science, in addition to teamwork, critical thinking, communication, persistence, and creativity. This interconnectedness and interplay of skills is vital to both the concept of *breadth of skills* and the educational strategies needed to help young minds cultivate them.

Ultimately, the learners today are required to be agile, adaptable and quick learners in the fast-changing environment. It is important to recognize the nature of these changes to examine the current context in which we live, and the major changes expected in our future, forcing us to re think of education in the constantly changing world. In this context, a key concept is respect for skill-education, as skill-development is crucial to adapting to a changing business model and labour market, to ensure equality of opportunity and social cohesion.

Skill- Development in the long run, can serve to be an essential tool for meeting challenges expected to be posed by the global drivers of change, such as climate change, globalization and demographic changes. The ongoing pandemic has made us realize the importance of vocational training. Despite lockdowns due to COVID-19 pandemic, the faculty, staff and students of BSDU have shown immense resilience and delivered their duty towards the nation by conducting/ attending online classes and addressed the need for the *breadth of skills* approach by imparting skill education to the young people.

I congratulate ***BSDU*** for working purposefully in this direction and wish it a great success in achieving the dreams of our beloved Late **Dr. Rajendra Kumar Joshi** and **Mrs. Ursula Joshi.**

SPOTLIGHT @ BSDU

India Skill Competition

India Skills Competition 2021: State Level (Raj)

Bhartiya Skill Development University in association with RSLDC has been the proud host of the India Skills Competition 2021 at the state level. In a bid to promote international standards in skills among the youth of our country, the National Skills Development Corporation (NSDC) under the aegis of the Ministry of Skill Development and Entrepreneurship (MSDE) organized India Skills Competition. India Skills Competitions are designed to demonstrate the highest standards of skills in India and make vocational training aspirational for the youth. Winners of India Skills 2021 shall represent the country at the World Skills International Competition to be held in Shanghai, China in 2022. BSDU hosted the 1st and the 2nd-level of India Skills Competition 2021 – Rajasthan in 15 different trades. The details of the competition held at the State, Regional and National Levels are as furnished below:

BSDU hosted India Skills Competition at state level with 119 participants on the following trades:

- CNC Milling (7 participants)
- CNC Turning (8 participants)
- Mechanical Engineering CAD (8 participants)
- Automobile Technology (8 participants)

- ❖ Car Painting (8 participants)
- ❖ Electrical Installation (8 participants)
- ❖ Cabinet Making (8 participants)
- ❖ Joinery (8 participants)
- ❖ Cyber Security (8 participants)
- ❖ IT Network System Admin (8 participants)
- ❖ IT Software Solutions for Business (8 participants)
- ❖ Mobile Robotics (8 participants)
- ❖ Web Technologies (8 participants)
- ❖ Welding (8 participants)
- ❖ Refrigeration & Air Conditioning (8 participants)

After the completion of the state level competition, the following students qualified to compete at the Regional Level held in Gandhi Nagar, Gujarat from 28 Oct. to 31 Oct. 2021.

Selected Participants for Regional Competition – 2021			
Name of the State / UT: Rajasthan			
Sn	**Skill Name**	**Competitor Name**	**Name of the Institute**
1	CNC Turning	Sumit Bhukar	BSDU
2	CNC Turning	Vinay Poonia	BSDU
3	CNC Milling	Madhusudan Singh Rathore	BSDU
4	CNC Milling	Ganesh Nitharwal	BSDU
5	MCAD	Rishi Aditya Sharma	MNIT, Jaipur
6	MCAD	Harsh Kumar Saini	BSDU
7	Joinery	Jaykishan Suthar	BSDU
8	Joinery	Sunil Kumar Naga	BSDU
9	Cabinetmaking	Shyoji Ram Sharma	BSDU
10	Cabinetmaking	Kanhaiya Lal Sharma	BSDU
11	Car Painting	Ganesh Jakhar	BSDU
12	Car Painting	Ajay Choudhary	BSDU
13	Automobile Technology	Chitrarath Rathore	BSDU
14	Automobile Technology	Jigar Jangid	BSDU
15	Welding	Deepanshu Saini	BSDU
16	Welding	Anil Kumawat	BSDU
17	Web Technologies	Yash Maheshwari	BSDU
18	Web Technologies	Shubham Khandelwal	IIIT, Kota
19	IT Software Solutions for Business	Aman Thakur	BSDU
20	IT Network Systems Administration	Kuldeep Tank	YSIT, Chittorgarh
21	Cyber Security	Rajkumar Kumawat	BSDU
22	Cyber Security	Ankit Poonia	BSDU
23	Mobile Robotics	Bhawansh Jangir	
24	Mobile Robotics	Sunil Kumar	MAWT, Padmpur
25	Electrical Installations	Monika Sarodia	BSDU
26	Electrical Installations	Ashish Sharma	BSDU
27	Refrigeration and Air Conditioning	Suresh Kumar Kumawat	BSDU
28	Refrigeration and Air Conditioning	Tushar Mandal	BSDU

After the completion of Regional level, the following students qualified for the National level competition.

SN	**Name of Candidate**	**School**	**Name of the Skill**	**Position**
1	Ganesh Jakhar	AUT	Car Painting	2nd
2	Ganesh Nitharwal	SMS	CNC Milling	1st
3	Sumit Bhukar	SMS	CNC Turning	1st
4	Vinay Poonia	SMS	CNC Turning	2nd
5	Ankit Poonia	ITN	Cyber Security	1st
6	Rajkumar Kumcawat	ITN	Cyber Security	1st
7	Sunil Kumar Naga	SWS	Joinery	1st
8	Jaykishan Suthar	SWS	Joinery	2nd
9	Anil Kumawat	SMCS	Welding	1st
10	Abhishek Verma	RET	Renewable Energy	2nd
11	Pooja Jangid	RET	Renewable Energy	2nd

India Skills Competition December 2021: National Level

The Skill Competition at the National level was held in Bangalore, from 27 Dec. to 31 Dec. 2021 in CNC Milling & CNC Turning. For the remaining trades, the National competition was held in Delhi, from 6 Jan. to 10 Jan. 2022. The names of the trades are:

- CNC Milling (1 Participant)
- CNC Turning (2 Participants)
- Car Painting (1 Participant)
- Renewable Energy (2 Participants)
- Joinery (2 Participants)
- Cyber Security (2 Participants)
- Welding (1 Participant)

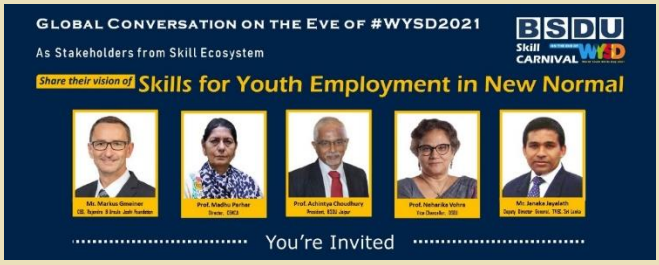
At the National Level Competition, 7 participants from BSDU won medals in different categories. The details of the winners are as listed below:

SN	Name	Trade	School	Medal
1	Jai Kishan Sutar	Joinery	2nd Sem, SWS	Gold
2	Sumt Bukhar	CNC Turning	SMS Trainer	Silver
3	Ganesh Nitharwal	CNC Milling	Alumni SMS	Medallion of Excellence
4	Vinay Poonia	CNC Turning	Alumni SMS	Medallion of Excellence
5	Anil Kumawat	Welding	3rd Sem, SMCS	Medallion of Excellence
6	Sunil Kumar Naga	Joinery	6th Sem, SWS	Medallion of Excellence
7	Abhishek Verma	Renewable Energy	Alumni RET	Medallion of Excellence

Activities @ BSDU

Global conversation on Skills for Youth Employment in New Normal

BSDU in association with CEMCA, New Delhi, organized the BSDU Skill- Carnival 2021 in the form of a month long festivity of Skills on the theme - *Re- Imagining Youth Skills Post Pandemic*. The event was organized to promote the power of Skills and to spread awareness about the Skill Development and Technical Vocational Education among the Youth.



To mark the end of the month-long BSDU Skill-Carnival and to commemorate the World Youth Skills Day 2021, a Global conversation on *Skills for Youth Employment in New Normal* was scheduled on 15 July 2021. The Skill Carnival commenced on June 21 and culminated on 15 July 2021 which is also celebrated as the World Youth Skill Day with a global conversation on *Skills for Youth Employment in the New Normal.* The Keynote speakers were Mr. Markus Gmeiner, CEO, Rajendra and Ursula Joshi Foundation, Switzerland, Prof. Niharika Vohra, Vice Chancellor, Delhi Skills University, Dr. Madhu Parhar, Director, Commonwealth Educational Media Centre for Asia, Prof. Achintya Choudhury, President, Bhartiya Skill Development University, and Dr. Janaka Jayalath, the Deputy Director General, Tertiary & Vocational Education Commission, Sri Lanka. The event noted a huge participation at the global level, both in terms of listeners and speakers. It was an honour to have Mr. Markus Gmeiner deliberating his thoughts on Skill Education in India in addition to speakers from Srilanka and India. It was a well-attended, appreciated event and also well-covered by the media.

The details of the other events held in the Skill carnival have been furnished below:

Date	Event/Topic	Expert/s
02-Jul	Expert Webinar on Reimagining Youth Skills in a Rapidly Changing Digital World	**Mr. Kastriot Komani,** Project Manager, School of Healthcare Skills BSDU Jaipur
03-Jul	Skill Workshop on Design Thinking	**Dr. Kaustubh Dhargalkar,** Author,

		Entrepreneur turned Academician, Innovation Evangelist & Startup
05-Jul	Panel Discussion on Reimagining Skill-Based Learning and Teaching	**Mr. Jaydeb Kar**, Prinicpal, Dalmia Vidya Mandir **Ms. Anu Bhatia**, Principal of St. Edmund's School **Ms. Sarika Gaur**, Principal, Subodh Public School **Dr. Sangeetha Noval**, Head General Education, BSDU Jaipur
08-Jul	International Health Conclave: Redefining the Role & Skill of Healthcare Worker in Post-COVID Period	**Dr. Sudhir Bhandari,** Principal & Controller, SMS Medical College **Dr. BV Krishna Rao**, Director, Maheshwara Medical College & Hospitals, Hyderabad. **Dr. Vimal Kr. Sharma,** Professor, Global Mental Health Research, University of Manchester, England **Dr. Anil Sharma**, Asst. Clinical Professor, UCLA School of Medicine, Deptt. of Psychiatry, Los Angeles, U.S.A **Dr. Kusum Gaur,** Sr. Professor, PSM, SMS Medical College, Jaipur **Mr. Kastriot Komani,** Project Manager, School of Healthcare Skills, BSDU, Jaipur **Dr. Lokendra Sharma**, Sr. Professor of Pharmacology, SMS Medical College, Jaipur
09-Jul	Skill Workshop on WoW The World with Your Speaking Skills	BSDU Jaipur-Hosted
09-Jul	Expert Webinar on Future of Automotive Sector: Trends, Skills & Employability	**Col. Sanjay Gangwar,** Principal, School of Automotive Skills **Dr. Vipin Pahuja,** Asst Prof. School of Automotive Skills
12-Jul	Expert Webinar on Solar Energy: The Solution to Climate Change	**Prof. Chetan Singh Solanki**, Professor, IIT Bombay & Founder, Energy Swaraj Foundation.
12-Jul	Expert Webinar on Skill Education & Employment Pre & Post COVID Perspective - Manufacturing Lens	**Dr. Binit Kumar Jha,** Principal, School of Manufacturing Skills and Director Industrial Relations
13-Jul	Skill Workshop on How to Make a Video Resume: Tips and Examples	**Mr. Shailesh Thakakar,** Distinguish Corporate and Academic Professional.
13-Jul	Try A Skill: Chef's Special Dish - Rajasthani Ker Shangri	Jugal Kishore Modi, Student of SHT
13-Jul	Fireside chat with Prof (Dr.) Mushtaq Ahmed on "Motivational Journey of a Champion."	**Prof (Dr.) Mushtaq Ahmed,** Principal, School of Hospitality & Tourism and Office Administration Skills **Mr. Shailesh Thakakar,** Distinguish Corporate and Academic Professional.
14-Jul	Expert Webinar on Role and Scope of RET & its Inclusion in World Skills Competition	**Mr. Arpit Sharma,** Head Ass. & Acc. in Skill Council of Green Job **Ms. Ruchi Pareek,** Director Technology, Smalt & Beryl **Dr. Ritu Tak,** Principal, School of Electrical Skills
15-Jul	TRY Skill session on How to Design and Build A Bird House	BSDU Jaipur-Hosted
15-Jul	Global Conversation on Skills for Youth Employment in New Normal	**Mr. Markus Gmeiner,** CEO, Rajendra & Ursula Joshi Foundation **Prof. Madhu Parhar,** Director, Commonwealth Educational Media Centre for Asia **Prof. Achintya Choudhury,** President, Bhartiya Skill Development University, Jaipur **Prof. Neharika Vohra,** Vice-Chancellor, Delhi

		Skill and Entrepreneurship University **Mr. Janaka Jayalath,** Deputy Director-General, Tertiary & Vocational Education Commission, Sri Lanka
03-Aug	Orientation Session on India Skills 2021-Rajasthan	**Mr. Matthias Faeh,** Project Manager, School of Woodworking Skills **Prof. Binit Kumar Jha**, Principal, School of Manufacturing Skills and Director Industrial Relations **Dr. Rajdeep Deb,** Principal, School of Entrepreneurship Skills and Head Admission
11-Aug	IndiaSkills2021-Rajasthan Joinery	BSDU Jaipur-Hosted
13-Aug	India Skills 2021-Rajasthan Carpentry	India Skills 2021-Rajasthan Carpentry
15-Aug	75th Independence Day Celebration	BSDU Jaipur-Hosted
17-Aug	India Skills State Competition - Rajasthan	National Skills Development Corporation (NSDC)
18-Aug	IndiaSkills 2021- Rajasthan (Car Painting)	BSDU Jaipur-Hosted
27-Aug	CNC Plasma Arc Cutting in Fabrication Process	**Mr.Andre Schneiter**, Project Manager **Bhagwan Sahai,** Trainer, School of Metal Construction Skills
07-Sep	BSDU Open House and Information Session	BSDU Jaipur-Hosted
22-Sep	Teacher Training Program on EV Technology	BSDU Jaipur-Knowledge Partner
27-Sep	Teacher Training Program on Air-Conditioning and Refrigeration Technology	Tertiary and Vocational Education Commission (TVEC) Sri Lanka
06-Oct	WoW: New Student Orientation 2021	Tertiary and Vocational Education Commission (TVEC) Sri Lanka
16-Oct	Erasmus day	BSDU Jaipur-Hosted

Orientation Programme WoW

The academic session of the summer semester commenced on 4 Oct. 2021. A Special welcome was extended to the newly admitted students of the Summer Semester batch. An Orientation Programme was organized for students which brought the newly admitted students together.

The programme introduced them to the campus life, academic resources and the facilities available at BSDU. The week- long orientation programme was held between 4 Oct. to 9 Oct. 2021. The students were privileged to have the address by Dr Vivek Bhandari, Chairman, Jio Payments Bank Ltd. which is a joint venture of the State Bank of India (SBI), and Reliance Industries Limited (RIL)) on 06 Oct. 2021 as a part of their Orientation Programme.

Visit by the Swiss Ambassador

It is matter of pride for BSDU that, the Swiss Ambassador, his Excellency Mr. Heckner and his wife- visited BSDU on 18 Oct. 2021.

The couple was extended a cordial welcome by Mr. Jayant Joshi, the Chairman Trustee, RUJCT and Prof. Achintya Choudhary, the President, BSDU. On their visit round the campuses of BSDU, they were extremely impressed with the University. They documented their appreciation in BSDU's Visitors' -Book deeming it to be a State –of- the- Art Skill University for the 21st Century. Dr. Heckner also appreciated the cordial hospitality rendered to him during his visit to BSDU and expressed his thanks for the same.

Visit by Prof Chetan Singh Solanki, IIT Mumbai

An expert lecture was delivered by Prof. Chetan Singh Solanki, IIT Mumbai during his visit made to BSDU on 23 October, 2021 which was attended by the B. Voc. students of the Schools of Electrical Skills, RET Skills and M.Voc. students as well.

Diwali Celebration and sweets distribution

Catching the vein of festivity and the spirit of celebrations, an initiative was taken by the HR office to celebrate Diwali in the BSDU campus on 29 October 2021. The celebrations took place in both the campuses, which were beautifully adorned and decorated with rangoli and lamps. All the employees of BSDU, including the members of the management assembled in ethnic wear adding grace to the *festival of lights*. Earthen lamps were lit and beautiful messages and Diwali wishes were written on the decorated boards placed in the areas where celebrations took place. The celebration was followed with the distribution of sweets to all the employees from the Management.

Visit by the delegates from Assam Skill University

It was an honour and privilrge to host a delegation from the Assam Skill University headed by Mr. Subhash Chandra Das, Former IAS officer and Hon'ble Vice Chancellor on Thursday 18 November 2021. The Vice Chancellor was highly appreciative of the Infrastructure and the syllabuses of the curriculum of the various courses at BSDU. He also requested BSDU for extending the best possible support in establishing the Skill University in Assam.

8th Meeting of the Board of Management: 17 December 2021

The BSDU Board of Management met for the 8th time on 17 December 2021 on a virtual mode. The Members of the Board discussed the vital matters pertaining the administrative/academic aspects of BSDU.

2nd Academic Council Meeting: 21 December 2021

The second Academic Council Meeting, BSDU was held on 21 December 2021 in the premises of the University on a virtual mode. The Internal and the external members of the Academic Council attended the meeting. President welcomed the Internal and the external members from the Sector-Skills Council following which, the proposed agendas pertaining to various academic/administrative aspects of the University were presented, discussed and approved accordingly by the council.

Christmas Celebrations @ BSDU

'Christmas comes but, once a year', nevertheless it has surpassed the religious boundaries and also become a symbol of holistic culture. BSDU grabbed the opportunity to celebrate it with a religious gaiety, fervour, and enthusiasm on 24 December 2021. The HR office made special arrangements to celebrate it with ardour and zeal in the University premises by decorating the administrative block with an embellished Christmas tree. The President, Prof. Achintya Choudhary, the Registrar and all the employees, including the Swiss employees viz. Mr. Kastriot Komani, Project Head, School of Health & Paramedics, Mr. Khunti and Mr. Andre Schnieter added grace to the occasion. A cake cutting ceremony was held and the special Plum cake was relished by all the employees and students of the University.

Research & Development

Three Ph.D. scholars enlisted below successfully defended their doctoral thesis in the viva- voce, becoming eligible for the award of their Doctoral degrees adding more feathers in the cap of the R&D Cell @ BSDU.

SN	Name of the Candidate	School	Title of the thesis	Name of the Guide
1.	Ms. Shashi Sharma	SCS	Machine Learning Techniques for Analysis of Student Potential and Performance in Technical Programs	Dr. Soma Kumawat
2.	Ms. S. Glory Swarupa	SES	A Study on Entrepreneurial Intention Among Students of Skill Universities in Rajasthan, India	Dr. Rajdeep Deb
3.	Ms. Antima Sharma	OAS	Impact of Informal Learning at Workplace of Business Process Outsourcing (BPO) Employees for Skill Enhancement	Dr. Mredu Goyal

Expert Lectures/Trainings/Other Activities

Product Development for JKLU, Jaipur

The School of Manufacturing Skills developed a specimen for conducting the testing of surface roughness and fatigue for JK Lakshmipat University, Jaipur. 42 work pieces were manufactured and handed over to JKLU between 24 Sept. to 27 Sept. 2021.

Corporate Training to Mahindra & Mahindra Ltd., Rudrapur

The School of Manufacturing Skills provided CNC Turning training to the employees of Mahindra & Mahindra Ltd., Rudrapur. for 10 days (4 Oct. to 14 Oct. 2021).

Fire Mock Drill

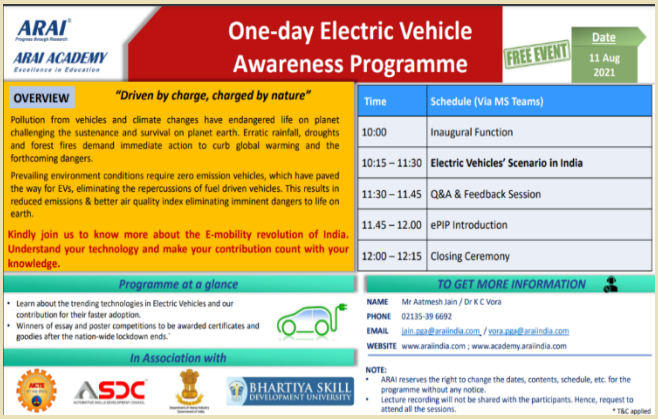
The Students of the School of Electrical Skills and the Team Maintenance attended a Fire Mock Drill on 30 December 2021 at DTA – 2 Zone Mahindra world city. During the drill, students were trained to operate the fire extinguishers. In all, 55 participants from BSDU got benefitted from the drill.

FDP conducted

The **School of Electrical Skills** organized one-week Faculty Development Programme in Electrical Skill from 02 Aug. to 07 Aug. 2021 for the faculty of the University. The FDP focused on Electrical safety, Electrical Machine Lab, Automation Lab, Smart Power System Lab, Ret Lab and House Wiring lab.

Webinars Conducted

The **School of Automotive Skills** in collaboration with ARAI, AICTE and ASDC successfully conducted a webinar on Electric Vehicle Awareness programme on 11 Aug. 2021. Dr. Sandeep Patil, the subject expert in EV delivered a presentation on Fundamentals of EV, Scope, trends and safety. The objective behind the webinar was to enhance the awareness in the field of electric vehicle. More than 35 students got benefitted from the webinar in addition to the team members from School.



Expert talks/ Research Papers Presented/ Published

Invited Talks

Expert	Topic	Organizer and Date
Dr. Satyendra Singh	Renewable Energy Sources Interfacing with the Grid	Shobhasaria Group of Institutions on 19 July 2021.

Papers Presented in Conferences/ Seminars/Symposia

Presenters	Title of the Paper	Venue & Date
Preeti Nagar and Pallavi Mathur	The Influence of Human Resource Management Practices on Top Level Employees' Turnover Intention in Hotel Industry	Manipal University Jaipur from November 18-19, 2021
Mahipal Bukya, **Pancham Kumar**, Rajesh Kumar and Akhilesh Mathur	Experimental Modelling of Solar-Powered Electric Vehicle Charging Station: Manipal University of Jaipur	Manipal University Jaipur from September 8-9, 2021

Papers/Chapters/Books Published

Author	Title of the Paper/Book	Publisher/ Journal, Year, ISSN/ISBN
Preeti Nagar and Pallavi Mathur	Turnover Intention in the Hospitality Industry: Bibliographic Analysis framework	Technological Advancements in Management, Agriculture, Education & Social Sciences. Published by: Bharti Publications, New Delhi ISBN: 978-93-90818-60-0
Preeti Nagar and Pallavi Mathur	Impact of the Covid-19 Pandemic in the Hospitality Industry-Job Insecurity	Journal of Hospitality Application and Research (JOHAR) Publishing by: Publishing India Group Volume 18 Issue 1
Satyendra Singh	6D-Chaotic System and 2D Fractional Discrete Cosine Transform Based Encryption of Biometric Templates	IEEE Access, vol. 9, pp. 103056-103074, 2021, doi: 10.1109/ACCESS.2021.3097881, SCI
	An Optimal Higher Order Likelihood Distribution Based Approach for Strong Edge and High Contrast Restoration	IEEE Access, vol. 9, pp. 109012-109024, 2021, doi: 10.1109/ACCESS.2021.3101413, SCI
	Impacts of Renewable Sources of Energy on Bid Modelling Strategy in an Emerging Electricity Market Using Oppositional Gravitational Search Algorithm	Energies 2021, 14, 5726. https://doi.org/10.3390/en14185726, SCI
	Likelihood Estimation and Wavelet Transformation Based Optimization for Minimization of Noisy Pixels	IEEE Access, vol. 9, pp. 132168-132190, 2021, doi: 10.1109/ACCESS.2021.3113857, SCI
Rajeev Sharma, Binit Kumar Jha, Vipin Pahuja and Sagar Sharma	Role of Environmental Friendly Machining on Machinability" Materials Today:	Proceedings, Elsevier, https://doi.org/10.1016/j.matpr.2021.03.652

Human Resources Communiqué

New Joinings from July 2021 – December 2021

The following personnel joined BSDU between July 2021 to Dec. 2021:

SN	Emp ID	Name	Designation	Date of Joining
1	BSDU 0279	Mr. Mukesh Kumar Kumawat	Deputy Manager - Finance	02.08.21
2	BSDU S021	Mr. Louis Khunti	Master Trainer, Healthcare & Paramedics Skills	03.08.21
3	BSDU S022	Mr. Felix Lagger	Project Manager, Automotive Skills	03.08.21
4	BSDU S023	Mr. Sulakshan Venugopal	Project Manager, Electrical Skills	03.09.21
5	BSDU 0281	Mr. Akhil Mathur	Project Manager-Construction	01.10.21
6	BSDU 0282	Mr. Sunil Saini	Junior Trainer (Computing)	05.10.21
7	BSDU 0283	Ms. Neha Masih	Senior Trainer-II (SHPS)	18.10.21
8	BSDU S024	Mr. Christoph Frei	Project Manager, Woodworking Skills	18.10.21
9	BSDU 0284	Mr. Dinesh Kumar Choudhary	Trainer-II (Computing)	18.10.21
10	BSDU 0285	Mr. Kuldeep Singh	Trainer-I (Electrical)	25.10.21
11	BSDU 0286	Dr. R. Nesamoorthy	Registrar	08.11.21

12	BSDU 0287	Mr. Kaushal Tiwari	Senior Trainer-I, SMCS	10.11.21
13	BSDU 0288	Mr. Shubham Kulkarni	Trainer-II, Automotive	22.11.21
14	BSDU 0289	Mr. Atul Saklani	Trainer-II, Automotive	06.12.21

Personnel promoted during the period July 2021 to Dec 2021:

SN	Name	School	Promotion
1	Mr. Anirudh Singh Sandu	SMS	Trainer-I to Senior Trainer-II
2	Mr. Rachit Tiwari	SMS	Trainer-I to Senior Trainer-II
3	Mr. Dharm Pal Kumhar	SMS	Trainer-II to Trainer-I
4	Mr. Madhusudan Singh Rathore	SMS	Junior Trainer to Trainer-II
5	Mr. Sumit Bhukar	SMS	Junior Trainer to Trainer-II
6	Mr. Mukesh Kumar Khakhal	SMS	Junior Trainer to Trainer-II
7	Mr. Shankar Lal Choudhary	SMS	Junior Trainer to Trainer-II
8	Mr. Sourabh Chechani	AUT	Trainer-II to Trainer-I
9	Mr. Baljeet Singh	AUT	Trainer-II to Trainer-I
10	Mr. Ubed Ul Haque	AUT	Junior Trainer to Trainer-II
11	Mr. Pawan Kumar Choudhary	ELE	Trainer-II to Trainer-I
12	Mr. Yatendra Singh Hada	ELE	Trainer-II to Trainer-I
13	Mr. Shubham Singh Rathore	ELE	Trainer-II to Trainer-I
14	Mr. Kuldeep Kumar	ELE	Trainer-II to Trainer-I
15	Ms. Surbhi Pareek	ELE	Trainer-II to Trainer-I
16	Mr. Navjot Singh	ELE	Junior Trainer to Trainer-II
17	Mr. Hanuman Prasad Jat	SWS	Junior Trainer to Trainer-II
18	Mr. Mohit Kalal	SWS	Junior Trainer to Trainer-II
19	Mr. Kamlesh Bagra	SWS	Junior Trainer to Trainer-II
20	Mr. Vikash Kumar Naga	SWS	Junior Trainer to Trainer-II
21	Mr. Om Prakash Shrimal	HPS	Trainer-II to Trainer-I
22	Mr. Ankit Prajapat	HPS	Junior Trainer to Trainer-II
23	Mr. Devendra Pathak	RAC	Trainer-II to Trainer-I
24	Dr. Prerna Srivastava	GEN	AP-II to AP-I
25	Mr. Vinay Kumar Verma	SHT	Trainer-I to Senior Trainer-II
26	Mr. Ravi Sharma	CON	Trainer-II to Trainer-I
27	Mr. Iqraj Nabi	CON	Trainer-II to Trainer-I
28	Ms. Rikky Kumari	SCS	Junior Trainer to Trainer-II
29	Mr. Sumit	SCS	Junior Trainer to Trainer-II
30	Dr. Shekhar Kapoor	Admission	Senior Admission Officer-II to Senior Admission Officer-I
31	Mr. Rajesh Saini	IT Cell	Maintenance Supervisor to IT Manager
32	Ms. Diksha Sharma	HR	Junior HR Executive-I to HR Executive

Award of Ph.D.

The following faculty were awarded with their Ph.D. degrees during July – December 2021:

- Dr. Sheetal Kumar Jain, AP-I (RAC Skills)
- Dr. Shitanshu Sapre, AP-I (Woodworking Skills)

Training & Placement Cell

The restructured T&P Cell comprises the following members:

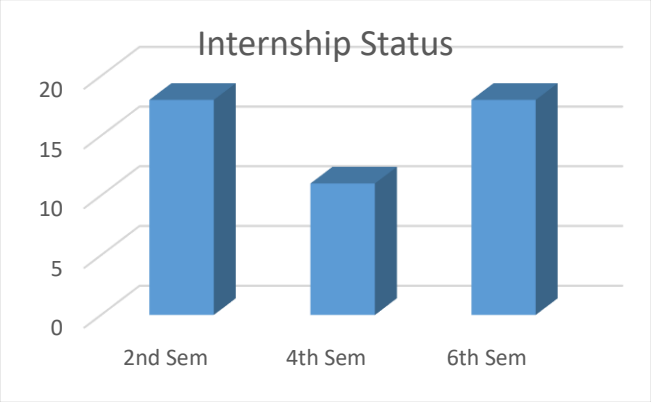
- Dr. BK Jha, Director, Industrial Relations
- Dr. Shekhar Kapoor, Training & Placement Officer

Placement Coordinators

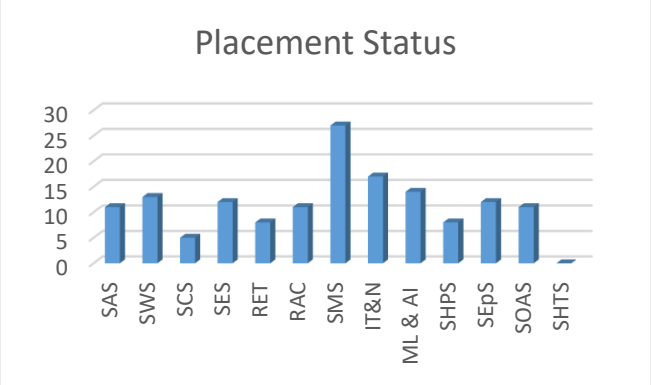
- Mr. Kamlesh Kr. Choudhary, SAS
- Mr. Harendar Singh, SWS
- Mr. Iqraj Nabi, CON
- Mr. Pawan Kr. Choudhary, ELE
- Mr. Navjot Singh, RET
- Dr. Sheetal Jain, RAC
- Mr. Anirudh Singh, SMS
- Mr. Bhagwan S. Bunkar, SMCS
- Dr. Shekhar Kapoor, SES

- Mr. OP Shrimal, HPS
- Mr. Sultan Singh, OAS
- Mr. Vinay Kr. Verma, SHTS
- Mr. Jitendra Mathur, SCS

The T&P Cell achieved 100% internship & placements for all students of BSDU. 149 students were placed and 47 students got placed for internships in various organizations as furnished below in graphical format:



Students' Internship Status



School-wise Placement Status

Activities Conducted

- Industrial Visit to Gulmohar Lane, Sitapura, Jaipur:

With respect to the internship and placement of students, an industrial visit was organized on 9 Dec. 2021 by Dr. Shekhar Kapoor (TPO), Mr. Christoph Frei (Project Manager, SWS) and Mr. Harendar Singh (Placement Coordinator, SWS) to the Gulmohar Lane (furniture manufacturing and designing company) at Sitapura, Jaipur. The team visited the premises and had a fruitful meeting with the Founder & Director of the organization and his team.

- Pre-placement Talk by RS-India

A campus presentation and pre-placement talk was organized for the students by the HRO and the team of RS India on 28 Dec. 2021.The HRO gave insights into the functioning of the company, its various verticals and criteria of selection. The talk got concluded with a session of question and answer which addressed the queries of students regarding internship. The pre-placement talk benefitted around 100 students present in the session.

- Industrial Visit to RS-India:

An industrial visit to RS-India was organized for the students of SMS, SES, SAS and SOAS on 29 Dec. 2021 where the students understood the concepts related to manufacturing, assembly, welding, electroplating, painting, packaging and other processes related to the industry and also

interacted with the HR, RS-India to know the industrial and human resources aspects.

Visits made by the Personnel from various Industries to BSDU

- Additional Director, Industries & CSR Mr. SS Shah and the Deputy Director, Industries, Udyog Bhawan, Jaipur, Dr. Balendra Singh on 23.06.2021.
- Sr. Manager from Wipro, Mr. Siddharth Adholia, the Branch Head, Paramount Healthcare, Mr. Vivek Kakkar and the Director of an IT Startup firm Q3 Technologies, Mr. Neeraj Mathur on 28.07.2021.
- Director, Operations of an interior designing firm Makeurhome, Mr. Chayan Agarwal and his team on 22.09.2021.
- Recruiting partner from Hero Cycles, Ludhiana, Mr. Kishan Karan on 9.10.2021.
- Operations Head, Skillsonics, Mr. Yogesh Gotre visited BSDU on 11.12.2021.
- Director, SVIET College Karnataka, Mr. Suhail Hussain on 16.12.2021.

Articles

Potential Scope for Career in Wood Working

Kumar Shanu Sharma
Trainer, School of Woodworking Skills

Woodworking is a trade which can be classified into three sub-categories like joinery, carpentry and cabinet making. With the rise in the consumer market and living standards of human beings, the demand of quality furniture has raised globally.

Furniture sector is composed of several segments like home furniture, office furniture and contract segments. Home furniture segment is major one which accounts 65% in the total sales, followed by office furniture 20 % share and then contract segment which accounts 15% share.

Home furniture is available in wide range to satisfy the demand of the customers like chairs, sofas, tables, beds, cabinets, modular kitchens and many more. In line with the growth of the economy in real estate and construction sector, rapid growth in the office furniture segment is witnessed and it is expected to continue in the future too. Contract segments primarily depend upon hotels and restaurants and with the growth in tourism sector, demand of furniture in this sector has also increased. Consequently, it is creating new job opportunities in furniture manufacturing, supply chain management like raw material (natural wood, engineering wood, furniture fitting etc.), sales and marketing.

With the rise in the living standards of human beings and space constraint in offices and homes, demand for customized designed furniture, single furniture with multiple features like sofa cum bed, folding bench cum dining table and many more such products demands is rising worldwide. Research and innovation is being carried out in fittings technology due to the rising demand of multi-feature furniture like cabinet making, wardrobes, modular kitchens which require fittings attachments. Consequently, it is creating better career opportunities in design, manufacturing, sales segments of the furniture fittings industries.

Thus, woodworking widens the scope in interior designing, modular kitchen segment, architecture of wooden housing segment, manufacturing and assembling units of the industry.

Revolutionizing the Traffic Light

Pranjal Maheshwari
Trainer, School of Automotive Skills

A drive through the snarly traffic in a metro city in India will make you question, why am I not getting enough green time or why am I waiting longer than needed at a junction? As a pedestrian, you might wonder if there is a button you can press to help you to cross the road. Every motorist has experienced the frustration of waiting at a red light when there is no traffic in sight. These days, countless household devices use sensors, cameras and connectivity to understand and respond to the world – so why do most traffic lights languish in the analog age, causing our vehicles to unnecessarily stop and idle?

The authorities in India have long been exploring solutions that adapt to changing traffic conditions in cities by the hour and the day. Adaptive Traffic Control System (ATCS) is not entirely new to India; however, the National Smart Cities Mission has helped in bringing in a broader level of understanding and implementation experience.

Adaptive Traffic Control System (ATCS) adapts to real time traffic patterns to optimize the traffic flow by dynamically changing the green split timings. ATCS algorithm adjusts traffic signal timings continuously based on the traffic demand at the intersections and anticipated arrivals from adjacent intersections. It improves travel time substantially by progressively moving vehicles through green lights and reduces congestion by creating smoother flow.

Features:

- Detection system based on camera detector with in-built advanced AI & Machine learning algorithms, use machine learning algorithms to analyse real-time traffic data from vehicle detectors to determine signal timings that are optimal for existing traffic conditions.
- Interactive & Secure Mobile App to monitor junction's status, equipment health status and operate police panel.
- Flexibility to the operators to zoom, easily navigate and ability to interact with objects on the map.
- Suggestions to future infra requirements based on the real time traffic density and help improve the efficiency of signaling systems in the city and provides data for effective engineering (civil works) of road network.

Case Studies:

Gandhinagar Smart City, Gujarat, INDIA:

Travel times ↓12-20%, waiting time @ signals↓20-40% @ Stops ↓15-30% Emissions ↓10-20%

Gandhinagar Smart City, India's first smart city and the second planned city after Chandigarh. ATCS played a major role in solving the most vulnerable traffic problems and lead to the vision of the city of being an equitable urban center that provides a high quality of life to all its citizens.

Adaptive Traffic Signal System is installed at 50 junctions in Bhubaneswar:

The Intelligent City Operations and Management Centre (ICOMC) is the backbone of Bhubaneswar's Smart City Strategic Plan. This state-of-the-art centre will provide a digital platform for integrating traffic management, emergency response, parking solutions, bus operations and common fare payment card.

Therefore, facing the limitations and major shortcomings of existing traffic signal control systems, relying on a wealth of traffic control interaction conditions and data, and developing a collaborative control system with a high degree of refinement, precision, and better responsiveness and intelligence are the objective needs and development direction of traffic control technology.

Therefore, the related achievements of the adaptive control system for the future traffic

environment have extremely broad application prospects.

IoMT: The New Era of Medical Science

Dr. Sumitra Singar
Assistant Professor
School of Computing Skills

Internet of Medical Things (IoMT) is the network of Internet-connected medical devices, hardware infrastructure, and software applications used to connect healthcare information technology, sometimes referred to as IoT in health care. IoMT allows wireless and remote devices to securely connect to the internet to allow for faster and more consistent analysis of medical data. The impact of IoMT on the healthcare market is undeniable and irreversible. According to a recent Deloitte study, the total IoMT market is expected to grow from $41 billion in 2017 to $158 billion by 2022.

In IoMT, IoT is integrated with medical equipment, allowing improved patient comfort, less expensive medical solutions, faster hospital treatment, and even more personal health care. Several emerging technologies such as Physically Unclonable Functions (PUF), Blockchain, Artificial Intelligence (AI), and Software-Defined Networking (SDN) are seen as essential technologies to overcome a number of e-care challenges such as security, privacy, accuracy, and performance.

Capability of IoMT in health care

IoMT capabilities are more accurate diagnosis, fewer errors and lower maintenance costs.The technology when combined with smartphone applications, allows patients to send their medical information to doctors in order to better monitor and diagnose and prevent chronic diseases. Infact, research conducted by researchers from Cedars-Sinai Medical Center and UCLA demonstrates the ability of Fitbit activity monitors to accurately diagnose ischemic heart disease by recording their heart rate and accelerometer data simultaneously. It helps in explaining why mHealth Intelligence reports that 88 percent of care providers invest in remote patient monitoring solutions. This type of technology not only helps to improve a patient's mood by eliminating the need for a personal medical visit, but also helps to reduce costs.

Goldman Sachs estimates that IoMT will save the healthcare industry $300 billion a year in cost primarily from remote patient monitoring and improved drug adherence. That being said, another positive effect of IoMT lies in drug control through the introduction of “smart pills” that contain tiny sensors, which, when swallowed, transmit data to connected devices. Some digital pharmaceutical companies, such as Proteus Discover, have focused their efforts on smart drugs to measure the effectiveness of drug treatment in order to improve clinical outcomes. Others, like HQ's CorTemp, use pills to monitor patients' internal health, transmitting wireless data as basic temperatures - values that can be critical to life or death.

IoMT is well established for advancement

The global IoMT market was projected at $44.5 billion in 2018 and is expected to grow to $254.2 billion by 2026, according to All The Research. The IoMT smart wearable device segment, which includes smartwatches and smart sensor-filled shirts, was made up a large portion of the global market in 2018, at about 27 percent, according to a report. This IoMT environment is ready for further growth as the artificial intelligence is integrated into connected devices and can prove that it is able to measure real-time, remotely and analyse patient data.

The expansion of the IoMT ecosystem also paves the way for new technologies, such as kiosks that provide connectivity to care providers. These kiosks will also enable doctors to monitor and treat patients from a distance - a growing need for patients in rural communities as they strive to hire and retain medical professionals. Regardless of the

location or condition of the patient, the emergence of the IoMT ecosystem will have a significant impact. The most remote areas will also be benefitted from better access to care as connected medical devices continue to find their way into the hands of patients and nurses.

Impact of IoMT in Medical Science

IoMT has an impact on the healthcare industry in many ways. These changes can be most noticeable when delivering IoMT to home, body, community, and hospital.

Home IoMT

Home IoMT allows people to transfer medical data from their homes to other places as their primary caregiver or hospital. For example, Remote Patient Monitoring (RPM) is the use of medical equipment to transmit metrics such as blood pressure or oxygen saturation to patients who have just been discharged from the hospital for review by their doctors. This can reduce the return of patients to the hospital by catching problems before they become serious.

The use of IoMT and telehealth devices can also be helpful in ongoing care without the patient setting. For example, Personal Emergency Response Systems (PERS) can track events such as a fall or a heart attack so that they can automatically call for help. PERS can provide protection for vulnerable people such as adults who want to stay home without endangering their safety.

On body IoMT

On-body IoMT is the use of portable medical devices connected to remote or monitoring surveillance systems. Unlike the home IoMT, physical IoMT is often used outside the home as people live their normal lives. IoMT devices on the consumer body are portable devices that can be purchased by anyone to track health metrics for personal use and to share with healthcare providers.

In addition to tracking common metrics, such as heartbeat, these devices can be an early warning sign in very serious health situations. For example, the Apple Watch may alert users to unusual heartbeats. Clinical on-body IoMT devices are similar to consumer devices but pay for a wider range of sensor options. For example, glucose sensors can be worn by diabetic patients to alert them to fluctuating glucose levels. Many of these tools can share data directly with a patient's physician to ensure that the patient receives prompt and accurate treatment.

IoMT community

Community IoMT is the use of IoMT machines in a large city or area. For example, mobility services are devices that are used to track patients while you are on the road with a car. Similarly, emergency response systems are used by paramedics and first responders to track a patient's metrics outside a hospital setting. In addition to mobile care and emergencies, IoMT community also incorporates technologies that allow remote services. For example, care facilities can be used by health care providers in non-traditional medical settings such as a wild hospital, and kiosks can be used to dispense medicines to people in areas that do not have access to common infrastructure. Providers may also use IoMT devices in transportation to assist with the transportation of health care supplies or medical equipment.

At Hospital IoMT

Hospitals need to control the quality and supply of their medical supplies over time, and they need to understand how staff and patients travel throughout the facilities. Health professionals use IoMT sensors and other tracking systems to track all of these interactions so that managers can gain a complete understanding of what is happening.

Emerging Technologies in IoMTs

Various technologies such as blockchain, PUF, AI, and SDN are used in IoMT.

Blockchain Technology

Blockchain is a decentralized ledger recording transactions of computing nodes in the network. A blockchain consists of blocks or nodes connected to a network where information exchanged between any location on the network is recorded and may be used for cross-references. These blocks contain information from previous blocks and this method helps to identify the real source of criminals on the network. Blocks that are not identified in the network are thus discarded and open the way for the blockchain to be considered as a trust strategy in information exchange systems such as IoMT.

Blockchain enables organizations to interact with each other without the presence of a central network administrator. Data embedded in the blockchain is stored as data blocks. These blocks, as mentioned earlier, contain information about the closest blocks in a series of cryptography protocols to integrate as they are used securely. These blocks and their data may be read by other users but the data in these blocks remain unproven. Blockchain also enables smooth processing of smart contracts that do not require any central authority to cause them. These contracts are self-contained and do not need to be monitored.

The role of the blockchain in the healthcare sector in order to embrace the solutions built around it requires that the infrastructure be divided into smaller modules. These modules can then be integrated with devices suitable for the IoMT framework. The resulting system will be distributed naturally and will allow for power sharing in the network. The benefits of deploying blockchain programs come with a reliability feature as data flow to the local health system grows exponentially. The blockchain promises to satisfy the ever-increasing demand for data exchange over health care infrastructure. The use of the blockchain is currently being evaluated in hospital programs followed by other clinical use trials around the world.

Physically Unclonable Function (PUF) Devices

PUF devices produce different fingerprints for vulnerable objects in the IoMT ecosystem. These unique fingerprints / signatures come from a variety of devices. These fingerprints can be used to generate encryption keys to protect devices and their data in the IoMT ecosystem where storage devices are at risk of hardware interference. PUF devices live in an object layer on our map. These devices play an important role when it comes to authentication of IoMT devices in the ecosystem.

AI in IoMT

Accurate medicine requires advanced diagnosis and complementary medicine with prompt delivery time. AI makes a compelling case in this regard by providing real-time solutions in determining new treatments for specific conditions based on history and real-time data. Various features in the healthcare ecosystem can be modified using AI-based solutions. This will include AI strategies for classification such as automatic scanning of patient information, scheduling patient appointments, determining laboratory tests, treatment programs, medications, surgical treatment, etc.

These dividers can continue training and support decision-making processes. In some categories that can be digitally recorded, Natural Language Processing (NLP) provides ways to extract information from those informal data points in the infrastructure. This can come in the form of laboratory reports, physical examination notes, performance notes, and other information related to patient discharge. In addition, machine learning

predicts future conditions based on historical data. Supervised or reinforced reading applies to predict future conditions.

SDN in IoMT

The network component in IoMTs can be divided into two parts: (1) data plane and (2) control plane. The data plane transfers traffic to its destination, while the control plane performs the necessary functions that allow the data plane to make forwarding decisions. Software-Defined Networking (SDN) provides a common method of communication between a data plane and a control plane. Examples of common SDN protocols are OpenFlow, Open vSwitch Database Management protocol, and OpenFlow Configuration protocol (OF-CONFIG).

Since the connection between the data plane and the control plane can be made normal using the standard SDN protocol, much different data plane data can be collected from an external server (which can be stored in the cloud) using a standard OpenFlow protocol. This enables the development of a separate e-healthcare application, as they can stay in the cloud layer. The SDN controller collects data from IoMT devices and delivers it to the e-healthcare app. An e-healthcare application can be a request for security and privacy, a patient diagnosis request or a patient safety application.

IoMT Challenges

IoMT comes with a variety of legal, regulatory, technical, and privacy challenges, especially since the IoMT ecosystem has many stakeholders, including providers of medical equipment, communication providers, Original Equipment Manufacturers (OEM), software providers, system connectors and end users.

Legal challenges

When IoMT devices generate and share data, it is not always clear who legally owns that data. For example, when a city-owned medical device captures data from a patient, stores data in a third-party cloud application, and shares the data with a private healthcare organization, who owns the data? City? Patient? Software provider? Healthcare Association? There are many ways different groups can use and share data. The owner may have the right to destroy the data, which can be complicated in a distributed network where the data can be repeated multiple times.

Regulatory challenges

Because of the sensitivity of medical data, there are important regulations about how and where it can be used, as well as specifications on how technology should be protected. For example, the Food and Drug Administration (FDA) has issued a comprehensive guide to Cybersecurity Management in Medical Devices. The Association for the Advancement of Medical Instrumentation has issued additional guidelines and legislation regarding these devices. However, even with the regulations and guidelines issued, 66% of respondents in the Deloitte study said that they believed the regulatory framework would not reach what could happen today for another five years.

Technical challenges

Given the widespread environment of IoMT infrastructure, software and software applications must be able to communicate securely. However, the protocols and security standards of these types of mergers are constantly changing. This could lead to operational problems as new technologies are introduced if older systems are unable to keep up to date with these changes.

Challenges to privacy and security

IoMT data often flows through the public internet and is exposed to more security threats than are available on a firewalled private network. This threat is compounded by the fact that data is shared across multiple systems, providing multiple attack vectors. OEMs should use the industry's

best practices regarding security, and regulators should use the latest encryption protocols, using unique and sophisticated passwords to access and authenticate SSL certificates for remote systems.

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Glimpses @BSDU

Christmas Celebration


Basic Life Support Workshop


School of Hotel Management

Pre-placement talks by RS India

India Skills 2021


Visit by Assam Skill University


BSDUian @ Regional Competition - North

Diwali Celebrations


Visit by Swiss Ambassador

Skill Education - Your Door To Success...

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