BHOJ REDDY ENGINEERING COLLEGE FOR WOMEN

(Sponsored by Sangam Laxmibai Vidyapeet, approved by AICTE and affiliated to JNTUH)
Vinaynagar, IS Sadan Crossroads, Saidabad, Hyderabad – 500 059, Telangana.

YEAR 2020 VOLUME 2

TECH RADAR

MAGAZINE

DEPARTMENT OF INFORMATION TECHNOLOGY

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Department Vision

To emerge as a department of excellence in using cutting–edge technology by empowering women with sound technical knowledge to meet the future needs and challenges of the society.

Department Mission

- Department is committed to provide an enriching & conducive environment to build tools through the values of compassion and respect.
- To provide a holistic learning environment which will help students improve their personal and professional skills.
- To create an ambience that will contribute in creating self-reliant, innovative and entrepreneurial professionals, who shall contribute to the growth of technology.
- To develop a passion for learning through practical approach.

DEPARTMENT OF INFORMATION TECHNLOLOGY

The WWW has changed the way the world looks at information. The expanding role of information technology (IT) in business, science, government, social structures and the personal lives in an obvious fact in the current generation.
As an academic discipline, IT focuses on meeting the needs of users within an organizational and societal context through the selection, creation, application, integration and administration of computing technologies. This course provides students with the skills and knowledge to take on appropriate professional positions upon graduation and grow into leadership positions.

Besides the laboratories mentioned above, IT Workshop was established as per the revised syllabus of JNTUH and it is available to all students.

Upgradation of laboratories with latest software and equipment is a regular practice in the college. All the above mentioned labs have the facility of latest licensed software. All the labs are under LAN environment with appropriate peripherals.

Principal's Message

"We cannot always build thatuture for our students, but we can build our students for the future'".

It was quite inspiring to witness the potential of our students evolving at various stages and situations each day. Trying and testing times during the hectic semester system have prompted students to put forth their best. In this COVID-19 pandemic, physical classrooms fully shifted to virtual experiences from this academic year and interactions between students and faculty changed. The management and the faculty have been supportive in view of helping the students reach the top of perfection and professionalism in their endeavours, thus strengthening "our journey of achieving excellence".

The students have been encouraged to be humane professionals in every act and there is no doubt that our outgoing batch of 2020-21 will indeed reach greater heights in life. I feel proud as the students have out shined in securing the highest number of placements in several virtual campus recruitment drives.

The college magazine illustrates the voyage at right angles and demonstrates the latent skills of students. Congratulations to the editorial team for their, determined efforts in bringing out this magazine.

With best wishes,

Dr. J.Madhavan
M.E.,Ph.D.,MISTE.,MIE.,
Principal
Email: principal.brecw32@gmail.com

HOD's Message

Dear Students,

I trust that you are taking care of yourself and helping your family well in this crisis time!

One is forced to spend time mostly at home, even if the lockdown is removed, due to a similar post lockdown scenario. But, I am sure you are spending your time very well in the midst of your loving family and exploring it fully in all the dimensions, it offers.

This apart, many of you may still have a good amount of free time and I am sure that you would like to use this time to discover and pursue your interests.

As you are aware, you have a lot of material available for browsing from resources such as,

- Swayam as advised by our Ministry (Add a little bit of body text)
- Numerous NPTEL courses (Add a little bit of body text)
- The www, a great virtual library and
- Platforms like Youtube.

With best wishes,
Dr C Murugamani
HoD-IT, BRECW

Faculty Contribution

Name of the faculty	Name of the Workshop / Short term course attended	Organised by	Dates of the Workshop / Short term course attended
M Sandhya Rani	Workshop on "Cyber Security"	SIT-JNTUH	29.01.2021 to 30.01.2021
	Innovative Development in Data Science	St.Martin's Engineering College	17.05.2021 to19.05.2021
	National Level One Week FDP on MutiTechnologies	TKR College of Engineering &Technology	28.06.2021 to 3.07.2021
D Navaneetha	FDP on CYBER SECURITY	JNTUH SIT	29.01.2021 to 30.01.2021
	National Level One Week FDP on MutiTechnologies	TKR College &Technology	28.06.2021 to 3.07.2021
	Innovative Development in Data Science	St.Martin's Engineering College	17.05.2021 to19.05.2021
	Innovative Thinking & Design in Machine Learning and Deep learning	St.Martin's Engineering College	21.06.2021 to 23.06.2021
	Introduction to Java	Coursera	08.03.2021 to 27.03.2021
	FDP on Data Analytics & Business Intelligence	StanelyCollegeofEngineering	05.07.2021 to 10.07.2021

Faculty Contribution

Name of the faculty	Name of the Workshop / Short term course attended	Organised by	Dates of the Workshop / Short term course attended
G Jyothi	Innovative Thinking & Design in Machine Learning and Deep learning	St.Martin's Engineering College	21.06.2021 to 23.06.2021
	Innovative Development in Data Science	St.Martin's Engineering College	17.05.2021 to19.05.2021
	BlockChain Technology Value Added Course National Level One Week FDP on MutiTechnologies	G Narayanamma Institute of Technology collabration with TCS	05-07-2021 to 09-07-2021
	Application of Machine learning & Data science in the emerging areas (JNTUH TEQIP-III)	Vidya Jyothi institute of technology	18-02-2021 to 20-02-2021
Maya Dhone	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020
	AI Workshop	St. Martin's Engineering College	17-12-2020 to 19-12-2020
	FDP on 'Innovative Developments in Data Science'	St.Martin's Engineering College	17.05.2021 to19.05.2021

Faculty Contribution

Name of the faculty	Name of the Workshop / Short term course attended	Organised by	Dates of the Workshop / Short term course attended
E Nitya	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020
	AI Workshop	St. Martin's Engineering College	17-12-2020 to 19-10-2020
	FDP on 'Innovative Developments in Data Science'	St. Martin's Engineering College	17-05-2021 to 19-05-2021
M K Mehveen	Course on Introduction to Big Data	Coursera	08.12.2020
	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	12-10-2020 to 16-10-2020
	Innovative Thinking & Design in Machine Learning and Deep learning	St.Martin's Engineering College	21.06.2021 to 23.06.2021
V Swarna kamalam	Course on "Programming for Everybody(Getting Started with Python)	Coursera	12.08.2020
	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020
	Innovative Thinking & Design in Machine Learning and Deep learning	St.Martin's Engineering College	21.06.2021 to 23.06.2021

Faculty Contribution

Name of the faculty	Name of the Workshop / Short term course attended	Organised by	Dates of the Workshop / Short term course attended
Saleha Farha	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020
Minhaj Begum	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020
V Veda Sahithi	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020
	AI Workshop	St. Martin's Engineering College	17-10-2020 to 19-10-2020
Tasneem Rahath	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020
	Faculty Development Program (FDP) on ML/DL by using COLAB and KNIME-a road map	CMR Engineering College	01-06-2021 to 05-06-2021
S Siva Kumar	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020
T Santosh	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020

Faculty Contribution

Name of the faculty	Name of the Workshop / Short term course attended	Organised by	Dates of the Workshop / Short term course attended
S Revathi	AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	AICTE	05-10-2020 to 09-10-2020
	Innovative Development in Data Science	St.Martin's Engineering College	17.05.2021 to19.05.2021
	Innovative Thinking & Design in Machine Learning and Deep learning	St.Martin's Engineering College	21.06.2021 to 23.06.2021
	FDP on Multi Technology	BVRIT & Brainovision solutions	28-06-2021 to 03-07-2021
Sudha Rani	AICTE-ISTE Sponsored Induction/Refresher Program on “Emerging Trends on IOT”	GNITC	05/05/2021 to 11/05/2021
	"National Level One week Faculty Development Program on Multi technology "	BVRITH	28/06/2021 to 03/07/2021
Mounika	Course on Digital Teaching Techniques	ICT Academy	01-02-2021 to 06-02-2021
Uma Maheshwari	Machine Learning for Computer Vision	Electronics and ICT Academies, IIT Gowhathi, IIT Kanpur, MNIT Jaipur, NIT Patna and PDPM IIITDM Jabalpur	1Feb to 12 Feb 2021

FACULTY COMPLETED THE ONLINE NPTEL CERTIFICATION EXAM

Sno	Faculty Name	Course Name	Type of Certification
1	G.Jyothi	Computer Graphics	Elite
2	G.Jyothi	Object oriented Analysis and Design	Elite
3	S.Revathi	Software Engineering	Elite

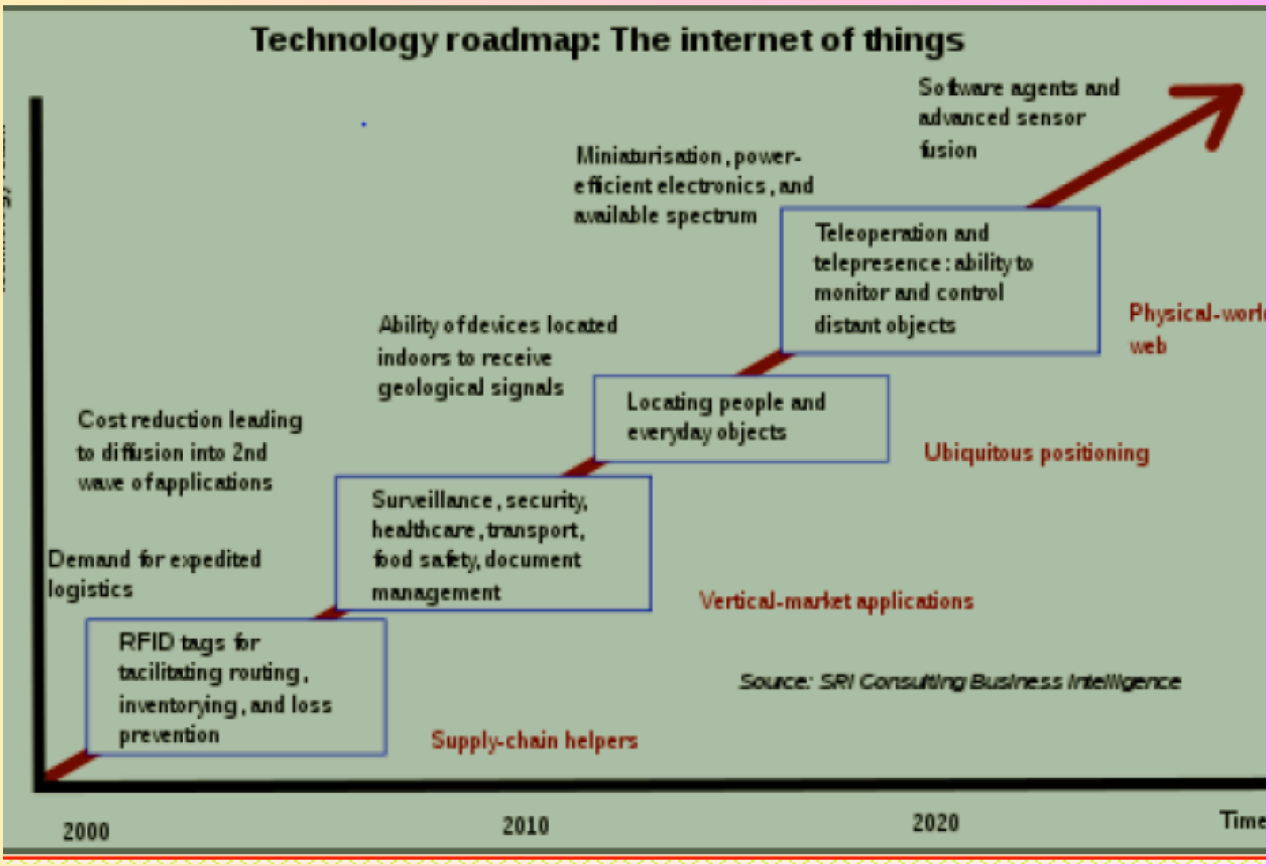
STUDENTS CONTRIBUTION

Technical Writing

INTERNET OF THINGS

Internet of Things is the concept of connecting any device (so long as it has an on/off switch) to the Internet and other connected devices. The IoT is a giant network of connected things and people – all of which collect and share data about the way they are used and about the environment around them. That includes an extraordinary number of objects of all shapes and sizes – from smart microwaves, which automatically cook your food for the right length of time, to self-driving cars, whose complex sensors detect objects in their path, to wearable fitness devices that measure your heart rate and the number of steps you've taken that day, then use that information to suggest exercise plans tailored to you.

Devices and objects with built-in sensors are connected to an Internet of Things platform, which integrates data from the different devices and applies analytics to share the most valuable information with applications built to address specific needs. These powerful IoT platforms can pinpoint exactly what information is useful and what can safely be ignored. This information detects patterns, make recommendations, and detect possible problems before they occur.



Nunna Sai Srija
17321A1280

AUGMENTED REALITY AND VIRTUAL REALITY

One of the biggest confusions in the world of augmented reality is the difference between augmented reality and virtual reality. Both are earning a lot of media attention and are promising tremendous growth. So, what is the difference between virtual reality vs. augmented reality?

Virtual reality (VR) is an artificial, computer-generated simulation or recreation of a real-life environment or situation. It immerses the user by making them feel like they are experiencing the simulated reality first-hand, primarily by stimulating their vision and hearing. VR is typically achieved by wearing a headset like Facebook's Oculus equipped with the technology, and is used prominently in two different ways:

- To create and enhance an imaginary reality for gaming, entertainment, and play (Such as video and computer games, or 3D movies, head-mounted display).
- To enhance training for real-life environments by creating a simulation of reality where people can practice beforehand (Such as flight simulators for pilots).
-

Virtual reality is possible through a coding language known as VRML (Virtual Reality Modelling Language) which can be used to create a series of images, and specify what types of interactions are possible for them.

Augmented reality (AR) is a technology that layers computer-generated enhancements atop an existing reality to make it more meaningful through the ability to interact with it. AR is developed into apps and used on mobile devices to blend digital components into the real world in such a way that they enhance one another, but can also be told apart easily. AR technology is quickly coming into the mainstream. It is used to display score overlays on telecasted sports games and pop out 3D emails, photos or text messages on mobile devices. Leaders of the tech industry are also using AR to do amazing and revolutionary things with holograms and motion-activated commands.

The terms virtual reality and augmented reality get thrown around a lot. VR headsets, such as the Meta Quest 2 or the Valve Index, and AR apps and games, such as Pokemon Go, are popular. They sound similar, and as the technologies develop, they bleed into each other in some ways. This is readily apparent in the new Apple Vision Pro, a headset that won't go on sale until early 2024. VR headsets completely take over your vision to give you the impression that you're somewhere else. The PlayStation VR 2, the Meta Quest 2, the Valve Index, and other headsets are opaque, blocking out your surroundings when you wear them. If you put them on when they're turned off, you might feel as if you're blindfolded.

Augmented reality and virtual reality are inverse reflections of one in another with what each technology seeks to accomplish and deliver for the user. Virtual reality offers a digital recreation of a real-life setting, while augmented reality delivers virtual elements as an overlay to the real world.

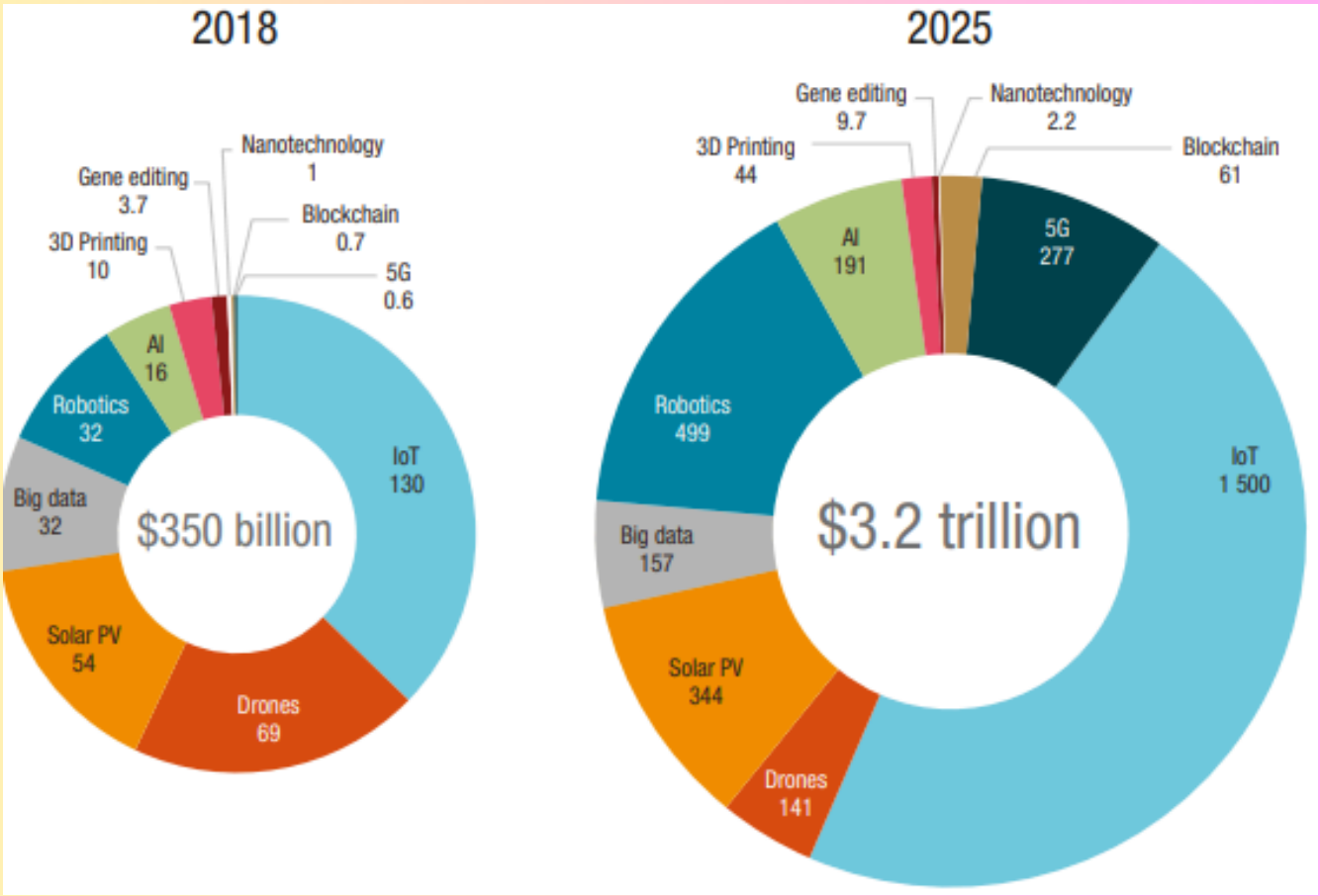
Virtual is real now! VR and AR, the twin technologies that let you experience things in virtual,that are extremely close to real, are today being used by businesses of all sizes and shapes. But theunderlying technology can be quite complex. Medical students use AR technology to practicesurgery in a controlled environment. VR, on the other hand, opens up newer avenues for gamingand interactive marketing.

Both technologies are still in their emerging stages but hold immense promise for businesses even now. Moreover, an entrepreneur that enters the industry early improves the chances for success. AR/VR development is steadily getting easier and cheaper. 5G networks will facilitate super-fast downloads and streaming, energizing VR and AR devices.

Jadav Umasri
17321A12B4

FORGING AHEAD AT THE DIGITAL FRONTIERS

The “frontier technologies” are a group of new technologies that take advantage of digitalization and connectivity which enable them to combine to multiply their impacts. This report covers 11 such technologies: artificial intelligence (AI), the Internet of things (IoT), big data, blockchain, 5G, 3D printing, robotics, drones, gene editing, nanotechnology and solar photovoltaic (Solar PV).

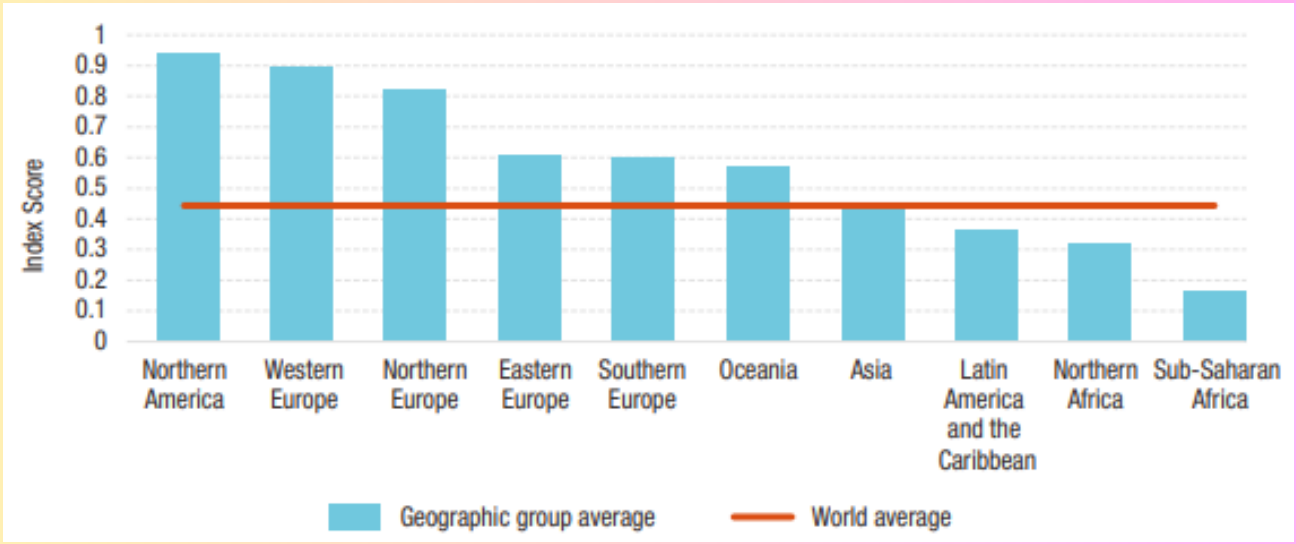


Market size estimates of frontier technologies, $billions

A country readiness index

Only a few countries currently create frontier technologies, but all countries need to prepare for them.
To assess national capabilities to equitably use, adopt and adapt these technologies this report has developed a ‘readiness index’. The index comprises five building blocks: ICT deployment, skills, R&D activity, industry activity and access to finance.

Based on this index, the countries best prepared are the United States, followed by Switzerland, the United Kingdom, Sweden, Singapore, the Netherlands and the Republic of Korea. The list also has high rankings for some transition and developing economies – such as China ranked at 25 and the Russian Federation at 27. Most of the least-ready countries are in sub-Saharan Africa, and in the developing countries generally.



A country readiness index

Annapurna Kalakonda
17321A1211

Future Cloud Computing Trends

Cloud computing, which underpinned the world's economy, global supply chains and remote workforces during the coronavirus pandemic, will continue to be an essential target for organizations looking for increased scalability, business continuity and cost efficiency in 2021.

"The effects of COVID-19 will linger throughout 2021, as businesses will look to lay a foundation for increased agility," said Dustin Milberg, field chief technology officer for cloud services at InterVision, a Santa Clara, Calif.-based IT service provider and AWS Premier Consulting Partner. "Cloud will take a key focus in this goal, given its benefits of improved accessibility, scalability and flexibility."

Edge Is the New Cloud

Edge is the new cloud, and new edge vendors will trim 5 points from public cloud growth next year, according to Forrester's predictions.

"In 2021, we will see new business models emerge that facilitate the deployment of edge, efforts by cloud platforms to compete, and AI and 5G facilitating the expansion of edge use cases," Forrester said.

NETWORK EDGE

By integrating the network edge into their cloud strategy, developers have the ability to easily deploy services at the edge without having to be concerned with the operational overhead of managing more infrastructure," he said. "With integrated development and deployment pipelines, developers can move application services and functions from the cloud into network edge locations. This will help create more responsive and dynamic applications

Chinthapula
17321A1240

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