

NEWSLETTER

SEPTEMBER 2025

*Kerala University of Digital Sciences, Innovation and Technology
(Digital University Kerala)
Thiruvananthapuram*



+91-471-2788 000 

www.duk.ac.in 

JV83+C29, Technocity Campus Mangalapuram
Thonnakkal P.O, Veiloor, Kerala 695317 

TABLE OF CONTENTS

CROPSS Project Wins Kerala State e-Governance Award 2022–23	01
Kerala Blockchain Academy Received Prestigious e-Governance Award	03
CDIPD-DUK Signs MoU with KSFDC for Development of Digital Ticketing and Aggregation Platform for Kerala	04
KSAAC Signs Cooperative Agreement with Alibi Global Pvt. Ltd.	07
DUK Empanelled by Cert-In	
Pilot Implementation of CeTMS at Sakthan Thampuran Palace Museum and Padmanabhapuram Palace	10
JustBuild'25	12
Kerala Blockchain Academy Hosts Faculty Empowerment Conclave	14
Engage 2025: Inspiring Volunteerism and Social Responsibility at Digital University Kerala	16
Blood Donation Camp	17
DREAM - Development of Rural Education and Mentoring Students	19
NBHM-DAE Research Grant Awarded for a 3-Year Project on Chaotic Mappings	20
Dr. Tony Thomas Joins Editorial Board of Prestigious Elsevier Journal	
Ideathon organised by Cisco ThingQbator & Innovation Club, DUK (Innovation-Mela 2025)	
Celebrating Research Excellence: DUK Alumni Publishes in Springer	21
c0c0n'25 Global Scholarship Winner	22
Digital University Kerala Football Team Storms into Quarter Finals of Raviz Prathidhwani 7's Tournament	23
Publications	24
Book Review	

Highlights

CROPSS Project Wins Kerala State e-Governance Award 2022–23

The Crop Pest Surveillance System (CROPSS), an innovative mobile-based information system designed to assist farmers in pest and disease management, has been honoured with the Kerala State e-Governance Award for the year 2022–23 under the category of Citizen Service Delivery and Mobile Governance.

CROPSS was conceived, developed, and implemented by the Centre for Digital Innovation and Product Development (CDIPD). The system represents a major milestone in integrating Digital technologies with agricultural extension services. It is a comprehensive pest and disease surveillance system that enables the effortless identification and diagnosis of insect pest attacks, crop diseases, and nutritional deficiencies or physiological disorders in various crops.

The surveillance data is captured by farmers, field scouts and agricultural extension officers using an integrated mobile application. The system is powered by a high-end data analytics platform that supports scientific data interpretation and decision-making.



Based on the field-level data, CROPSS generates pest severity reports for extension officers and researchers, and provides timely advisories for farmers. Reports are generated location-wise and local body-wise, ensuring easy navigation and interpretation. Additionally, the system automatically sends mobile SMS alerts to farmers and respective agricultural extension officers or scientists, enabling them to take immediate remedial actions.

Currently, CROPSS can diagnose around 240 image-based symptoms associated with 20 major crops cultivated in Kerala, offering a valuable digital support tool for sustainable and data-driven farming.

The award was presented by the Honourable Chief Minister of Kerala during a function held on 25th September 2025 at Thiruvananthapuram. Dr. Ajith Kumar R, Director, CDIPD, along with the project team, received the award on behalf of the institution.

Speaking on the achievement, Dr. Ajith Kumar R highlighted that the recognition reflects Kerala's commitment to promoting digital innovation in agriculture and empowering farmers through technology-enabled governance. He noted that CROPSS demonstrates how artificial intelligence, data analytics, and e-Governance can converge to deliver timely, citizen-centric agricultural solutions. The CROPSS project initiative stands as a shining example of effective mobile governance and citizen service delivery, reinforcing DUK's leadership role in applying technology for inclusive and sustainable agricultural development.





Kerala Blockchain Academy Received Prestigious e-Governance Award

Kerala Blockchain Academy (KBA) has been honoured with the e-Governance Award from the Government of Kerala under the category Digital Process Re-engineering (Special Jury Award) for the periods 2021–22 and 2022–23.

The award was presented by the Hon’ble Chief Minister Pinarayi Vijayan. The recognition was conferred for KBA’s flagship project, “CertiChain” (certificate.kba.ai), a secure, tamper-proof, and efficient blockchain-based system for certificate issuance and verification. The project has set a benchmark in leveraging emerging technologies to enhance transparency, security, and efficiency in public services.

The award was received by Prof. Dr. Asharaf S., Sakeer M. A., Ananthan R., and Mobin Mohanan, representing the team whose dedicated efforts led to the successful implementation of CertiChain.

This recognition stands as a testament to KBA’s dedication to promoting blockchain adoption and motivates further exploration in transformative Web3 technologies.



CDIPD-DUK Signs MoU with KSFDC for Development of Digital Ticketing and Aggregation Platform for Kerala

The Digital University Kerala (DUK) has signed a Memorandum of Understanding (MoU) with the Kerala State Film Development Corporation (KSFDC) for the development and implementation of a Digital Ticketing and Aggregation Platform, aimed at transforming the ticketing ecosystem for film and cultural events across Kerala.

The Digital University Kerala (DUK) has signed a Memorandum of Understanding (MoU) with the Kerala State Film Development Corporation (KSFD) for the development and implementation of a Digital Ticketing and Aggregation Platform, aimed at transforming the ticketing ecosystem for film and cultural events across Kerala.

The MoU was signed on 29th September 2025 at Thiruvananthapuram, in the esteemed presence of Sri. Saji Cherian, Hon. Minister for Culture, Government of Kerala. The agreement was executed between Prof. A. Mujeeb, Registrar, Digital University Kerala, and Sri. Priyadarsan PS, Managing Director, KSFD.

The MoU was exchanged in the presence of several dignitaries. Representing Digital University Kerala, the following members were attended the function. Dr. Ajith Kumar R, Director, Centre for Digital Innovation and Product Development (CDIPD); Dr. J. Balachandran; Sri. Arun Balakrishnan; Mrs. Soorya Krishnan; Ms. Fathima Zahina; Mrs. Vidhu Vincent; Mr. Aneesh; the Project Management Team of CDIPD was also present on the occasion.

This collaboration marks a significant milestone in Kerala's journey towards digital transformation in the cultural and entertainment sectors. The proposed digital platform will serve as a unified digital interface enabling ticket booking, event aggregation, data analytics, and audience engagement across all theatres, film festivals, and other cultural events throughout the state.



Speaking on the occasion, Sri. Saji Cherian highlighted that the partnership between DUK and KSFDC reflects the Government’s vision to leverage technology to promote Kerala’s vibrant cultural landscape while ensuring transparency, efficiency, economical and accessibility for the public.

Prof. A. Mujeeb, Registrar, emphasized that the project aligns with DUK’s mission to apply cutting-edge digital technologies for societal benefit and to foster innovation-driven governance across sectors in Kerala. He also reaffirmed that DUK is fully committed to the development of this platform and will ensure that the project is delivered on time with complete administrative support.

The Digital Ticketing and Aggregation Platform will be developed by the Centre for Digital Innovation and Product Development (CDIPD) at Digital University Kerala. Once implemented, this AI driven digital platform is expected to streamline digital ticketing operations across all theatres in Kerala, enable real-time data analytics, and enhance the overall user experience. This initiative will set a new benchmark for digital public infrastructure in the cultural sector, reflecting the State’s commitment to technology-driven governance and service excellence.

This partnership reinforces DUK’s continued commitment to supporting digital transformation initiatives of the Government of Kerala and strengthening collaborations that drive innovation, transparency, and public service excellence.



KSAAC Signs Cooperative Agreement with Alibi Global Pvt. Ltd.

KSAAC signed a Cooperative Agreement with M/s Alibi Global Pvt. Ltd. on 18th September 2025.

The objective of this agreement is to establish a collaborative framework between KSAAC and M/s Alibi Global in key areas, including:

- Conducting joint activities in security auditing and forensic analysis
- Organizing faculty development programs, student training, internships, and certification initiatives in the field of cybersecurity.

This collaboration is envisioned to strengthen academic–industry engagement and enhance KSAAC’s capabilities in forensic analysis, research, and training, while fostering greater knowledge and awareness among faculty and students across the State.



DUK Empanelled by  **certin**
Enhancing Cyber Security in India
Computer Emergency Response Team-India

The Kerala Security Audit and Assurance Centre (KSAAC) is an initiative of the Government of Kerala, established at the Kerala University of Digital Sciences, Innovation and Technology (KUDSIT) popularly known as Digital University Kerala (DUK) to strengthen the state’s cybersecurity ecosystem.

DUK has been empanelled by CERT-In, Government of India, marking a major milestone as the first university in the country to achieve this prestigious distinction.

The Indian Computer Emergency Response Team (CERT-In), under the Ministry of Electronics and Information Technology (MeitY), Government of India, is the national nodal agency responsible for ensuring cybersecurity in the country. Each nation has its own CERT, and CERT-In leads India's efforts in monitoring, preventing, and responding to cybersecurity incidents.

According to CERT-In guidelines, Empanelled Security Auditors are authorized to evaluate the effectiveness of an organization's information security framework by conducting vulnerability assessments, penetration testing (VAPT), interviews with key personnel, review of security policies, and testing of IT assets.

The KSAAC, established at the DUK, is a CERT-In Empanelled Security Auditor. KSAAC conducts comprehensive audits of websites, networks, applications, and infrastructure in strict adherence to CERT-In's IT Security Audit Guidelines. Upon successful completion of audits and compliance verification, KSAAC/DUK issues certifications aligned with CERT-In standards.

KSAAC upholds the highest standards of confidentiality, integrity, and professionalism. All client data is handled responsibly and ethically, ensuring accuracy, transparency, and complete protection of information throughout every engagement.

Key Services Offered by KSAAC/DUK

1. Web Application Security Audit (WASA) / Dynamic Application Security Testing (DAST)
2. Mobile Application Security Audit (MASA)
3. IT Infrastructure and Network Security Audit (ITIA)
4. Source Code Review (SCR) / Static Application Security Testing (SAST)
5. Software Integrity and Configuration Audit
6. IoT and Embedded Device Security Audit
7. Aadhaar Authentication and Data Privacy Compliance Audit
8. ISO 27001:2022 Internal Audit and Compliance
9. Risk Assessment and Management
10. V-CISO / V-DPO Services
11. Forensic Analysis and Incident Response
12. Accessibility and Regulatory Compliance Audit
13. Cloud Security and Compliance Audit
14. Data Protection and Privacy Impact Assessment

Training and Certification Programs Offered by KSAAC

1. Certified Penetration Tester (CPENT)
2. Certified Chief Information Security Officer (CCISO)
3. Certified Ethical Hacker (CEH)
4. Certified SOC Analyst (CSA)
5. Computer Hacking Forensic Investigator (CHFI)
6. Pentest+
7. Security+
8. CySA+
9. Post Graduate Diploma in Cyber Security (PGDCS)
10. Customized Cybersecurity Training and Capacity Building Programs (for Students, Faculty, Corporate Employees, and Government Officials)
11. Internship Programs in Cyber Security (Hands-on training and real-world project experience for students and early-career professionals)

Schedule your free Cert-In audit consultation now!

✉ info.ksaac@duk.ac.in | ☎ 0471-2788072, 9447582856

🌐 www.ksaac.duk.ac.in



Pilot Implementation of CeTMS Successfully Conducted at Sakthan Thampuran Palace Museum and Padmanabhapuram Palace

The Centre for Digital Transformation and Innovation (CDTI), Digital University Kerala, in collaboration with the Department of Archaeology, Government of Kerala, has successfully completed pilot implementations of the Centralised eTicket Issuing and Monitoring System (CeTMS) at two major heritage sites – the Sakthan Thampuran Palace Museum, Thrissur, and the Padmanabhapuram Palace, Thuckalay.

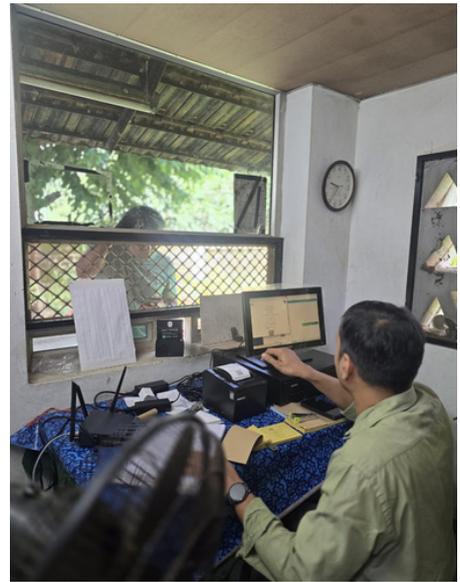
The CeTMS project aims to digitally transform ticketing and entry management across museums and heritage sites under the Department of Archaeology. The system introduces a centralized platform for ticket issuing, real-time monitoring, and data-driven reporting, enhancing visitor experience, operational efficiency, and transparency in museum management.

The first phase of piloting was conducted at the Sakthan Thampuran Palace Museum, Thrissur, from 4th to 8th August 2025, where the system was tested successfully in a live operational environment. The pilot was implemented by the CDTI team comprising Umasankar (Senior Research Associate), Shafina M (Software Engineer), and Krishnapriya M U (Quality Analyst).

Subsequently, the system was piloted at the Padmanabhapuram Palace, Thuckalay, from 9th to 12th September 2025, where it was successfully deployed and validated under real-world operational conditions. The CDTI team led by Umasankar, along with Shafina M, Krishnapriya M U, and Keerthi R S (Junior Software Engineer), ensured smooth implementation and system performance monitoring throughout the process.

The successful completion of these pilots demonstrates the readiness and scalability of CeTMS for wider implementation across museums under the Department of Archaeology.

This milestone underscores the commitment of the Centre for Digital Transformation and Innovation, Digital University Kerala, to delivering innovative digital solutions that strengthen governance, enhance public services, and preserve Kerala's rich cultural heritage.



JustBuild'25

JustBuild'25 is a fun-filled, highly engaging, week-long innovation program designed to encourage students to tinker with ideas and build crude prototypes, organised by the Institution's Innovation Council (IIC) and the Innovation Club - DUK.





Kerala Blockchain Academy Hosts Faculty Empowerment Conclave

The Kerala Blockchain Academy successfully organised the Faculty Empowerment Conclave, titled “Empowering Educators: Insights on Blockchain, Research & Career Pathways”, on 20th September 2025 at Technopark Phase I. The conclave provided faculty members with direct exposure to Blockchain, Web3, research grants, and career pathways, enabling them to strengthen their expertise and guide students toward future-ready opportunities. Kerala Blockchain Academy’s latest publication, “Advanced Blockchain Technologies: A Comprehensive Textbook on Ethereum Smart Contracts to Decentralised Applications”, was introduced to the faculty members. The book is designed to serve as a comprehensive resource for advancing blockchain education and research across academic institutions. The conclave brought together faculty representatives from institutions across India and was marked by ideas, collaboration, and meaningful discussions, resulting in actionable insights for integrating blockchain into academic and research initiatives.





Engage 2025: Inspiring Volunteerism and Social Responsibility at Digital University Kerala

The Social Engagement Centre (SEC) at Digital University Kerala successfully organized Engage 2025, an interactive event marking the beginning of a new academic year with a spirit of service and community engagement. The program aimed to introduce new postgraduate students to the university's social engagement initiatives and to inspire them to participate in volunteer-driven community development activities.

The event brought together students, faculty, and representatives from leading NGOs, creating a vibrant platform for dialogue and collaboration. NGOs such as Nila Foundation, Kanal, Helping Hands, Make a Difference, and Ether India showcased their initiatives and volunteer programs, offering students an opportunity to explore real-world engagement possibilities.

The day was filled with energy, music, and interactive games, fostering a warm and inclusive environment for students to connect with peers and community partners. The SEC team also shared insights about its ongoing projects and the importance of integrating social responsibility with digital innovation, encouraging students to take an active role in social change.

Engage 2025 highlighted the University's commitment to nurturing socially conscious technologists who are not only academically strong but also empathetic and community-oriented. The event concluded with enthusiastic student participation and a renewed commitment to using technology for social good.





Blood Donation Camp

The Social Engagement Centre organized a one-day blood donation camp in collaboration with Tejas and the Regional Cancer Centre (RCC) for students and employees on 17th September 2025. More than 70 participants contributed to the drive, resulting in the collection of 30 units of blood.





DREAM - Development of Rural Education and Mentoring Students

The Social Engagement Centre, in collaboration with Pullampara Panchayat, successfully completed a six-month program called DREAM for students from marginalized communities in Pullampara Panchayat. The students showcased the projects they developed during the course at the Edufest organized by Pullampara Panchayat. Parents shared their experiences about sending their children to this program and described how it helped their children learn beyond the classroom.



Achievements

NBHM-DAE Research Grant Awarded for a 3-Year Project on Chaotic Mappings

Dr. Sishu Shankar Muni, Assistant Professor, School of Digital Sciences has been awarded a research grant from the National Board for Higher Mathematics (NBHM), Department of Atomic Energy, for the project titled “Beyond Arnold Tongues: The Role of Extreme Curves, Superstable Curves, and Invariant Manifolds in the Bifurcation Structure of Chaotic Mappings.” The project will be supported for a duration of three years.

Dr. Tony Thomas Joins Editorial Board of Prestigious Elsevier Journal

Dr. Tony Thomas, Associate Professor, School of Computer Science and Engineering, has been selected to join the Editorial Board of the Journal of Information Security and Applications (JISA), published by Elsevier. It is consistently ranked as a Q1 journal, reflecting its high impact and reputation in the field of information security.

JISA serves as a leading international platform for publishing original research and practice-driven applications with strong relevance to information security. By bridging the global research community and industry professionals, the journal provides critical insights into emerging security challenges and highlights innovative scientific and best-practice solutions. Dr. Thomas’s appointment to the Editorial Board underscores his notable contributions to cybersecurity, biometrics, cryptography, and privacy-preserving technologies.

Ideathon organised by Cisco ThingQbator & Innovation Club, DUK (Innovation-Mela 2025)

Ms. Shipra got 2nd prize for her idea in the Innovation mela event which was organized by ThingQbator Innovation Club.



Celebrating Research Excellence: DUK Alumni Publishes in Springer!

Mr. G. N. Sai Shankar, an alumnus of Digital University Kerala, has co-authored a research paper titled “Open Access as a Strategic Tool for Stakeholder Engagement in SDGs: A Case Study Approach,” recently published by Springer. The study was conducted in collaboration with Nzeyimana Bahati Shabani, Dr. Tiwari Shuchi, and Dr. Mariaselvam Sheela Mary.

The paper explores how open access platforms can serve as a strategic means to enhance stakeholder engagement in achieving the Sustainable Development Goals (SDGs). Through a case study approach, the authors highlight the importance of transparency, inclusivity, and knowledge-sharing in driving global sustainability efforts. Sai Shankar’s work reflects a growing emphasis on the role of digital ecosystems in bridging gaps between academia, policymakers, and communities.

His contribution adds to the body of research promoting equitable access to information and the use of digital tools for social progress. His achievement serves as an inspiration for current students, showcasing how research and innovation from Digital University Kerala continue to find relevance and recognition in international academic platforms.



[Nzeyimana Bahati Shabani](#) , [Tiwari Shuchi](#), [G. N. Sai Shankar](#) & [Mariaselvam Sheela Mary](#) [Show fewer authors](#)

cOcOn'25 Global Scholarship Winner

We are delighted to share that Mr. Hizan Rahman, a student of the 2025–27 MSc Computer Science batch, SOCSE, proudly represented our university at cOcOn 2025 – an internationally renowned Cybersecurity Conference.

Only 15 students were selected globally for the prestigious scholarship

- Hizan Rahman, MSc Computer Science, was one among them – a proud moment for us all!
- Scholarship awarded by Kerala Police Cyberdome & Information Security Research Association

At the conference, Hizan Rahman had the opportunity to:

- Attend advanced cybersecurity sessions
- Network with global industry experts

This recognition showcases outstanding talent, dedication, and passion for cybersecurity. We extend our heartfelt congratulations to him and look forward to witnessing many more global recognitions from our talented students! 🎉



Digital University Kerala Football Team Storms into Quarter Finals of Raviz Prathidhwani 7's Tournament

The Digital University Kerala football team continues its impressive run in the Raviz Prathidhwani 7's Football Tournament – Season 8, advancing to the quarter final stage after a series of stellar performances in Phase 2 of the competition.

Having earlier qualified for the Round of 32, the team once again emerged as group winners in the league matches, showcasing consistent form, teamwork, and determination. Building on this momentum, the team delivered a spirited performance in the pre-quarter final match, securing a well-deserved victory to book their place among the top eight teams in this prestigious tournament.

Organized by Prathidhwani, the welfare organization for IT employees, the Raviz Prathidhwani 7's is one of the most celebrated football tournaments in the IT sector, attracting over a hundred teams from across Technopark and beyond.

With strong performances and unwavering team spirit, the Digital University Kerala team has demonstrated remarkable progress this season. Determined to carry their winning momentum forward, the team now aims to go beyond the quarter finals and secure an even more prestigious position in the tournament, bringing pride to the entire DUK community.



Aswin, P. J., Gopal, K. G., Aswathi, M., Christa Mary, V. J., Devu, R., & Sherin, D. R. (2025). Integrated machine learning and molecular simulation approaches for identifying HIV-1 reverse transcriptase inhibitors from abacavir analogues. *ChemistrySelect*, 10(35), e01461. <https://doi.org/10.1002/slct.202501461>

Nair, A. S., Vijay, J. V. P., & Thampi, S. M. (in press). SoCoMNet: A socio-cognitive and memristive neural network-based context-aware GPS spoofing detection and mitigation in the Internet of Drones. *Vehicular Communications*. Elsevier.

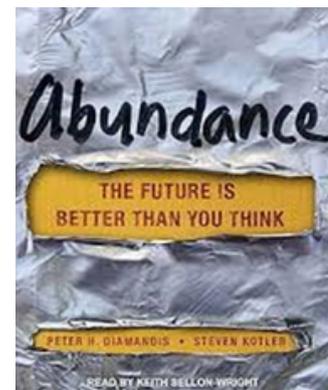
Ibrahim, V., Alaya Cheikh, F., Asari, V. K., & Paul, J. S. (2025). Extrapolation convolution for data prediction on a 2-D grid: Bridging spatial and frequency domains with applications in image outpainting and compressed sensing.

Book Review

The three books are from the same authors, Peter H. Diamandis and Steven Kotler, in 2012, 2015 and 2020.

Abundance: The Future Is Better Than You Think (2012)

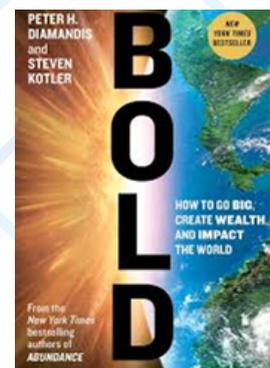
Abundance: The Future Is Better Than You Think is about humanity's future through exponential technologies. The book picks up challenges like water, energy, healthcare, and food that can be solved with technology. Scarcity is not inevitable, and innovation through exponential technologies (AI, robotics, nanotech, biotech), DIY innovators (individuals solving global problems), Tech philanthropists (billionaires funding global solutions) and the Rising billion (the next billion entering the global economy) creates abundance.



Mantra 1: Optimism + technology = powerful combination for solving grand challenges.

Bold: How to Go Big, Create Wealth and Impact the World (2015)

Bold: How to Go Big, Create Wealth and Impact the World is a playbook for entrepreneurs to harness exponential technologies for massive impact. The book details on Crowdfunding, exponential organizations and leveraging communities with Case studies of Elon Musk, Richard Branson, Larry Page, Jeff Bezos. Boldness as a mindset: Taking “moonshot thinking” seriously with the “6 D’s of Exponentials” that include Digitization, Deception, Disruption, Demonetization, Dematerialization and Democratization



Exponential entrepreneurs can use the 6D to disrupt industries quickly.

Mantra 2: Bold thinking + right tools = wealth creation + social impact.

The Future Is Faster Than You Think: How Converging Technologies Are Transforming Business, Industries, and Our Lives (2020)

The Future Is Faster Than You Think: How Converging Technologies Are Transforming Business, Industries, and Our Lives is about the convergence of exponential technologies reshaping every industry at unprecedented speed. Unlike Abundance (possibilities) and Bold (how-to guide), the book shows acceleration in real-time by converging AI + robotics + 3D printing + AR/VR + blockchain + biotech, multiplying each other’s impact.



Industries such as retail, advertising, entertainment, health, finance, real estate, and transportation are being rapidly disrupted, with companies like Uber, Airbnb, and Tesla serving as prime examples of how quickly transformation can occur, while near-future scenarios point toward breakthroughs in personalized medicine, immersive entertainment, AI-powered assistants, and the rise of smart cities. Change is not linear but exponential and accelerating; disruption will be faster and broader than expected; individuals, companies, and governments must adapt rapidly or risk obsolescence—because in this new era, collaboration across industries and technologies is not optional, it is the new normal.

Mantra 3: Adapt fast, think exponentially, collaborate widely



*Dr. Sini V Pillai
Assistant Professor
School of Digital Humanities and Liberal Arts*



Designed and Developed
@
The Knowledge Centre

