



VidyaVikas Education trust's
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ASHTAG

Applied Science and Humanities Department

VISION

The Department of Applied Science and Humanities is committed to dynamically integrate the components of Science, Humanities and Engineering to groom students to transform them as globally acknowledged professionals.

MISSION

The department is carrying a mission to create and disseminate the knowledge and techniques in intellectual areas of Engineering and other core areas of Applied Science and Humanities for betterment of Eco system.

To inculcate the importance of Applied Science and develop a natural flair for Engineering and Technology which in turn shall mold students into a competent professional.

To be recognized for practicing the best teaching-learning processes to create highly competent, resourceful, and self-motivated young Engineers for the benefit of the society.

*"Never lose.
Either win
or learn."*

Industry 4.0 – The Digital Transformation

Industry 4.0 has been defined as “a name for the current trend of automation and data exchange in manufacturing technologies, including cyber-physical systems, the Internet of things, cloud computing and cognitive computing and creating the smart factory”.

Industry 4.0 is often used interchangeably with the notion of the fourth industrial revolution. It is characterized by, among others,

- even more automation than in the third industrial revolution,
- the bridging of the physical and digital world through cyber-physical systems, enabled by Industrial IoT,
- a shift from a central industrial control system to one where smart products define the production steps,
- closed-loop data models and control systems and
- personalization/customization of products.



The goal is to enable autonomous decision-making processes, monitor assets and processes in real-time, and enable equally real-time connected value creation networks through early involvement of stakeholders, and vertical and horizontal integration.

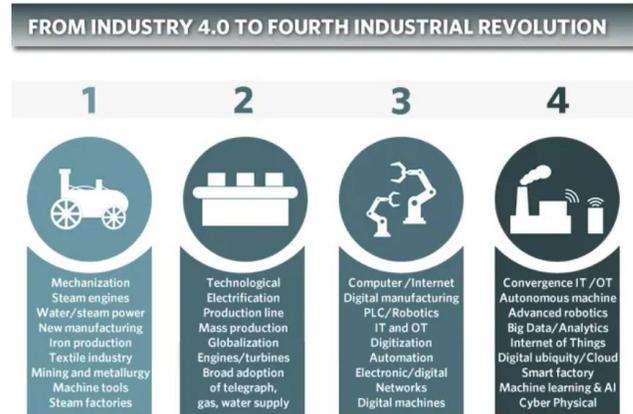
Industry 4.0 is a vision, policy, and concept in motion, with reference architectures, standardization and even definitions in flux.

The fourth industrial revolution and the impact of the drivers and technologies behind Industry 4.0 have been looked at from the perspective of various sectors after the concept was launched. This has led to more ‘4.0’ terms, often based on academic work. Examples include Logistics 4.0 (logistics and transportation), Construction 4.0 (construction industry), Energy 4.0 (energy and utilities industry), and more.

Most Industry 4.0 initiatives are early-stage projects with a limited scope. The majority of digitization and digitalization efforts, in reality, happen in the context of third and even second industrial revolution technologies/goals.

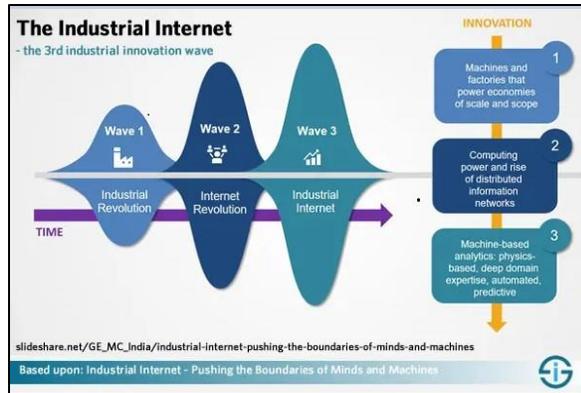
In essence, the technologies making Industry 4.0 possible leverage existing data and ample additional data sources, including data from connected assets to gain efficiencies on multiple levels, transform existing manufacturing processes, create end-to-end information streams across the value chain and realize new services and business models.

As a reminder the classic view of these four industrial revolutions, as Industry 4.0 became increasingly popular, was:



- The first industrial revolution, which REALLY was a revolution, and, among others thanks to invention of steam machines, the usage of water and steam power and all sorts of other machines, would lead to the industrial transformation of society with trains, mechanization of manufacturing and loads of smog.
- The second industrial revolution is typically seen as the period where electricity and new manufacturing ‘inventions’ which it enabled, such as the assembly line, led to the area of mass production and to some extent to automation.
- The third industrial revolution had everything to do with the rise of computers, computer networks (WAN, LAN, MAN,...), the rise of robotics in manufacturing, connectivity and obviously the birth of the Internet, that big game changer in the ways information is handled and shared, and the evolutions to e-everything versions of previously brick and mortar environments only, with far more automation.
- In the fourth industrial revolution we move from ‘just’ the Internet and the client-server model to ubiquitous mobility, the bridging of digital and physical environments (in manufacturing referred to as Cyber Physical Systems), the convergence of IT and OT, and all the previously mentioned technologies (Internet of Things, Big Data, cloud, etc.) with additional accelerators such as advanced robotics and AI/cognitive which enable Industry 4.0 with automation and optimization in entirely new ways that lead to ample opportunities to innovate and truly fully automate and bring the industry to the next level.

Most of the benefits of Industry 4.0 are – obviously – similar to the benefits of the digital transformation of manufacturing, the usage of the IoT in manufacturing, operational and business process optimization, information-powered ecosystems of value, digital



transformation overall, the Industrial Internet and many other topics on our website.

The Industrial Internet, as we wrote previously a term coined by American industrial giant GE, looked pretty much like Industry 4.0. The difference between Industry 4.0 and the Industrial Internet, however, is that, originally,

the Industrial Internet was seen as the third industrial innovation wave. It only shows how relative revolutionary terms are as the three industrial Internet innovation waves respectively were:

- **The Industrial Revolution.** The real one and more or less a combination of the first and second revolution in the Industry 4.0 view.
- **The Internet Revolution:** ‘computing power and the rise of distributed information networks’.
- **The Industrial Internet:** what is called the fourth industrial revolution in Industry 4.0.

Today the concept of four industrial revolutions, however, has gained widespread adoption and so has Industry 4.0.

In the end the actual outcomes which by definition are human. And whether all the mentioned dramatic changes in software and systems, in processes and ways of optimizing, automating, creating value and changing experiences will fully take place in the end is also a human matter.

Prof. Dr. Jan Jürjens

Contributed by: Aniket Patil

Source: <https://www.i-scoop.eu/industry-4-0/#:~:text=Industry%204.0%20has%20been%20defined,and%20creating%20the%20smart%20factory%E2%80%9D>.

Ditch the Plastics: This Gujarat Boy's Edible Spoons Come in 8 Unique Flavour!

One need not watch Sir David Attenborough's Planet Earth II or read the recent issue of National Geographic magazine to comprehend the detrimental consequences of single-use plastics over the environment and how our collective indifference is only worsening the crisis. The penetration of plastic waste has become so rampant that the sad fate of countless birds, animals, and marine beings after mistakenly ingesting plastic for food, might soon befall us, albeit in a different manner.

Plastic cutlery is one of the most common single-use plastics that is casually discarded and usually ends up in landfills or worse, water bodies.

However, alternatives like metal and biodegradable cutlery are slowly coming to the fore, with individuals and organisations vehemently promoting these products to reduce the damage we have caused to the environment.

The recent innovation of edible cutlery—which can be consumed after finishing one's meal—has come as a relief to many of us, and one young man from Gujarat has



not only found a way to reduce our plastic burden through edible spoons, but apparently, these can be relished in eight amazing flavours!

24-year-old Kruvil Patel is a Vadodara-based engineer, whose interest in edible cutlery soon gave birth to Trishula, an entrepreneurial venture of his own.

Shortly after finishing college, Kruvil discussed the idea with his family. They wanted him to join the family business and didn't quite support his vision of making edible cutlery, but the young man was insistent, and following months of intensive research and practical demonstrations, Trishula took flight in November last year.

Giving one the opportunity to choose among eight unique flavours including beetroot, spinach, chocolate, masala, black pepper, mint, ajwain (carom seeds), and plain, Kruvil

believes that this will help in catering the diversity of people with far-ranging taste preferences.

The finished products are not only 100 percent natural with no added preservatives or artificial flavouring, but the spoons also have a shelf life of six months from the date of manufacturing. The start-up even gives one the opportunity of customizing the spoons as per the size, shape, and taste.



The cost of a single spoon ranges from ₹3 to ₹6, depending on quantity and flavour. While a plain-flavoured spoon is priced at ₹3 per piece with an order quantity of over 5,000 pieces, a chocolate spoon is sold at ₹4.5 per piece.

As of now, these edible spoons are being marketed through Living Essentials, a Mumbai-based distributor, but one can also order these spoons directly by reaching out to Trishula via its Facebook page

In just a span of four months, Trishula has found takers in not just India but also countries like Australia, Norway, Malaysia and South Africa, and has sold over 50,000 spoons! The venture will soon be live with a website of its own that will enable more people to easily access edible cutlery from across the globe.

While a new manufacturing unit that can produce 5,000 spoons in an hour is in the pipeline for the young entrepreneur, Kruvil also plans to harness the full potential of edible cutlery by exploring products other than spoons in the future.

Edited by Gayatri Mishra

Contributed by: Marina Thomas

Source: <https://www.thebetterindia.com/148075/news-edible-spoons-trishula-kruvil-patel/>



To Mr. Shivam Shukla for completing a certified course on “Research Opportunities in Vibration Engineering” Page | 7



To Komal Jain Ma'am and Marina Thomas Ma'am for being the resource persons for a session organized by *Rotaract Club Of Mumbai Bravehearts , *Rotaract Club of Mulund Hills, Rotaract club of Thakur College of Engineering and Technology (RC TCET) and Rotaract club of Maniben Nanavati Women's College. Komal Jain Ma'am took the session on 'Personality Development' and Marina Thomas Ma'am on 'Professional

Development'. A total of 216 participants attended. The session received a positive response.

The poster is for a webinar titled "NAVIGATE TOWARDS YOUR DEVELOPMENT" presented by the Rotaract Club of Universal College of Engineering. It features two speakers: Ms. Marina Thomas, Asst. Professor (AS&H Department) at UCOE, and Mrs. Komal Jain, Asst. Professor (AS&H Department) at UCOE. The event is scheduled for 19th January, 2022, starting at 4pm onwards, and will be held via Google Meet. The poster includes logos for District 3141 Rotaract, Club of Universal College of Engineering, and various partner organizations like REMNWE, BRAVE HEARTS, and Club of VPM's & J-shel. Social media handles for @rcucoc are provided at the bottom.

Edited and compiled by Marina Thomas.

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