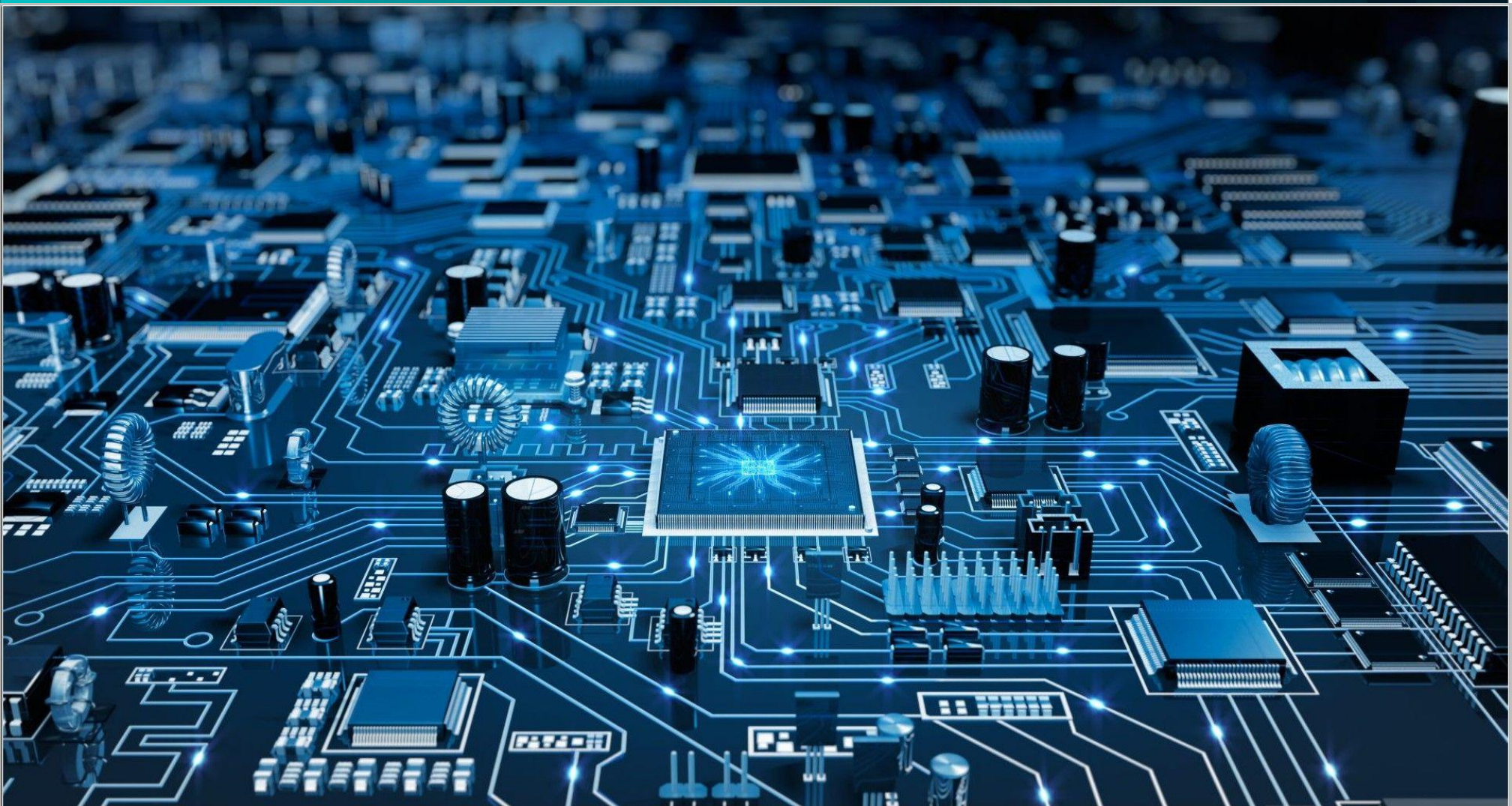


ELECTRONICA

NEED OF SOCIETY

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



Know more about:

- ❖ Robotics Process Automation : challenge
- ❖ Corona : New Pandemic
- ❖ The New Normal
- ❖ The Rise of the Online Learning
- ❖ A Semester without Exam

VISION

To prepare the students for global competence, with core knowledge in electronics and communication engineering having focus on research to meet the needs of industry and society.

MISSION

- M1:** To become dynamic and vigorous knowledge hub with an exposure to state of art technologies for connecting world.
- M2:** To provide in-depth knowledge of Electronics and Communication Engineering ensuring the effective teaching learning process.
- M3:** To train students to take up innovative projects in group with sustainable and inclusive technology relevant to the industry and social needs.
- M4:** To empower students to become skilled and ethical entrepreneurs.
- M5:** To promote and adapt professional development in a perpetual demanding environment and nurture the best minds for the future.

PSOs

PSO 1- To apply the knowledge of mathematics, science and electronics & communication engineering to work effectively in the industry based on same or related area.

PSO 2- To use their skills to work in modern electronics & communication engineering tools, software and equipments to design solutions for complex problems in the related field that meet the specified needs of the society.

PSO 3- To function effectively as an individual and as a member or leader of a team by qualifying through examinations like GATE, IES, PSUs, TOEFL, GMAT and GRE etc.

PEOs

PEO-1 To have excellent scientific and engineering breadth so as to comprehend, analyze, design and solve real- life problems using state-of-the-art technology.

PEO-2 To lead a successful career in industries or to pursue higher studies or to understand entrepreneurial endeavors.

PEO-3 To effectively bridge the gap between industry and academics through effective communication skill, professional attitude and a desire to learn.



FROM THE DESK OF THE MANAGING DIRECTOR

"Work is Worship"

Success is not a one-shot process. It is the result of a continuous improvement after each failure. The fear of failure needs to be captured in order for a person to learn from his failure too. It is an invaluable opportunity to rectify errors and move forward. Failure in working for a good cause is better than success in working for a wrong cause.

Over the years now, NIET has built quite a special position in the private higher education sector. With its distinctive culture, it provides a clear student-centered environment in which to explore existing technical knowledge, and gain new learning at the leading edges of technology development.

Our unique educational system ensures that you gain not just depth and breadth in your chosen area of specialization, but also a holistic set of skills that will equip you to face the real world. At every stage there will be opportunities to expand your boundaries, platforms for collaboration and learning, and recognitions for those who strive to excel. Thus, I would like each one of you to join NIET and aspire as global leaders and a successful human being.

Dr. Om Prakash Agarwal



ADDITIONAL MANAGING DIRECTOR

*“Education is the most powerful weapon which you can use to change the world” -
Nelson Mandela*

In the course of last 20 years many technical & management institutes have sprung up all over the country. Graduates passing out every year are highly optimistic, that technical courses ensure a rewarding career.

The economic, corporate and social environments are undergoing radical changes. To survive, manage and excel in this dynamically changing atmosphere; it demands engagement of professionals who are well informed, competent, courageous and versatile.

Beyond the academics, the curriculum at NIET is strongly linked with several recent themes like latest technologies needed by organizations, soft skills, communication, among others. Classroom learning is made interesting by highly qualified and experienced faculty through interactions, presentations, role plays, case studies and out bound learning programs. This is further reinforced by practical learning through Industrial visits and summer training. Students regularly undergo personality development and grooming sessions that leads to both extrinsic and intrinsic confidence boosting and prepares them for the corporate world.

Dr. Neema Agarwal



FROM THE DESK OF EXECUTIVE VICE PRESIDENT

This new generation is an interesting one. Most of them are born in a world where technology has always been at the forefront. These students rely on Google, texting, social media and Wi-Fi, and they view email - not letter writing - as a formal form of communication.

NIET has been helping students write their own stories since its inception. Committed to providing the best jobs by creating life-changing educational opportunities and collaborative learning environments, we have stayed at the forefront of innovation in higher education, providing the tools our students need to make them industry ready from day one and make an impact in the world.

NIET has a Pyramid Finishing School, which provides training to the students according to the industry requirements giving the individual student a 360 degree in employability skills. The Institute has also made tie-ups with MNCs. These tie-ups not only promise to enhance student employability by manifold, but also take the lead in encouraging 'innovative' learning like never before. Taking the league forward, we have established various innovation labs to provide students hands-on experience in various modern-day technologies.

I, thus, invite you to join our movement to create Corporate Citizens who become role models, wherever they go, for developing their professional career. I promise you a challenging academic experience, with an international flavor, which will truly transform your lives.

Mr. Raman Batra



MESSAGE FROM DIRECTOR

Welcome you to the Noida Institute of Engineering & Technology, Gr. Noida. Ever Since its inception in 2001 our endeavor at NIET has been to provide excellent quality of education and training to young minds aspiring to become engineers, managers, pharmacists and technocrats.

In order to achieve this goal we have established an infrastructure that compared with the best in the world. Our faculty members are highly talented and qualified. Additionally, we invite the finest minds from the industry and academia as guest lecturers. We motivate our students to dream big and guarantee that we inculcate de the right spirit and the necessary talent to realize their objective. We also continuously strive to instill ethical values in our wards so that they become responsible citizens of tomorrow.

NIET has always stood for quality and excellence and we make every effort to constantly assess and improve ourselves. These efforts have been recognized, appreciated and awarded by prestigious educational bodies both in India and abroad.

I wish you the very best as you choose to become a part of this exciting and vibrant learning community.

Dr. Vinod M Kapse



MESSAGE FROM THE HOD

It is a matter of great pride for the department of ECE that ***Electronica*** is getting wide response from the student's community. The editors of ***Electronica*** wish to ignite their readers to dream for the highest order of technical advancements in the area of Electronics and Communication Engineering.

I acknowledge the contributions made by the authors and the hard work of the Editorial Board members who managed against all odds and obstacles to bring out the magazine. This magazine has proved its worth by inspiring many students and faculty members to write articles for the benefit of students at large. I look forward to hearing from the readers. Their feedback and contribution of articles for future issues is greatly desired.

Dr. V K Pandey

Robotics Process Automation : Bussiness Solution in Pandemic

Before computers came into existence, humans used to do all the hard work with limited means available at hand. With the advent of computers, massive storage of data and calculations have become possible with a single mouse click. But still, a human is needed to operate the system. Now, the ever-evolving technology can take out the humans too out from the equation.

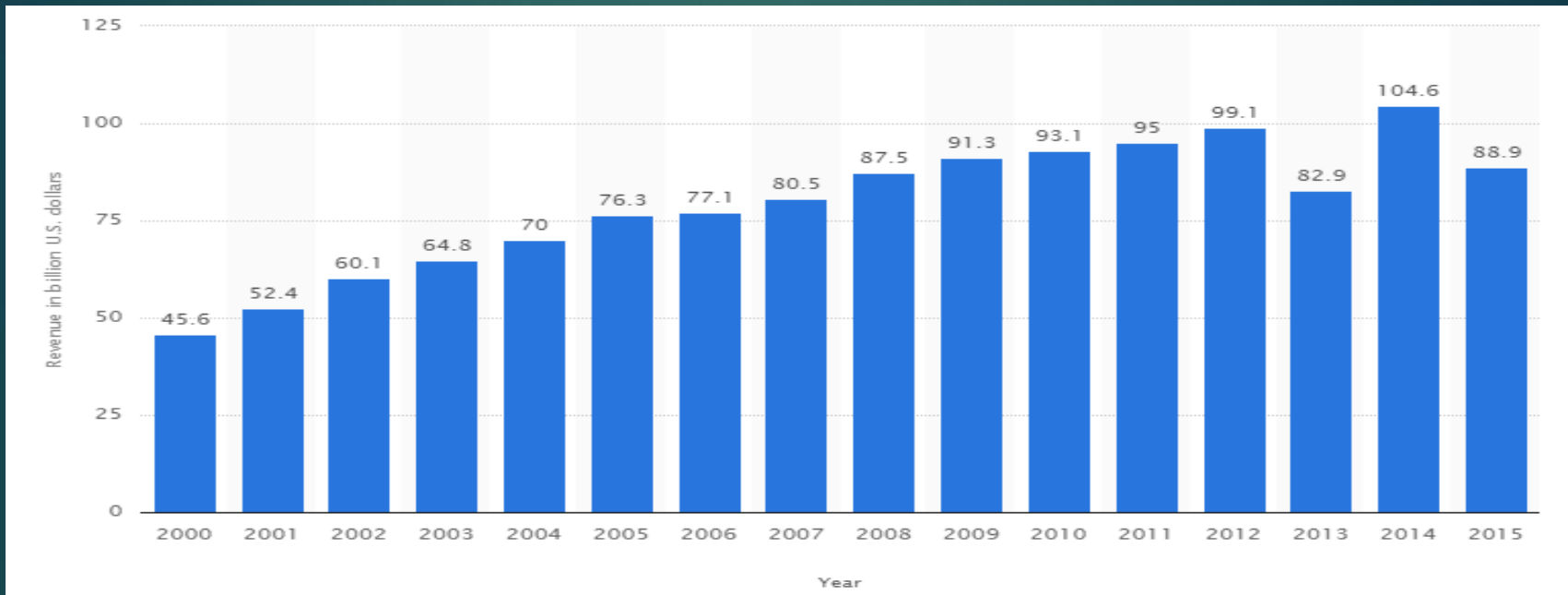
Imagine yourself telling your computer to do this, do that and finish that report for you. Is it really possible and effective? The answer is **yes**.

This is exactly where Robotic Process Automation (RPA) comes into play. RPA systems are used to automate basic and repetitive office tasks.

A technology like this can have massive impact on the future of Business Process Outsourcing (BPO).

➤ **BPO Industry in numbers**

According to Gartner, worldwide IT services market will reach \$929 billion in 2016, growing 3.8% in constant currency in 2016, or 2.1% in U.S. dollars. With outsourcing contributing 60% of market growth in constant currency, the market will reach \$1.1 trillion in 2020. Due to high quality of work and availability of skilled talent at lower rates, Indian BPOs have become the go-to firms for outsourcing voice-based and non-voice based jobs.



Source: Statista

In FY2016, NASSCOM expects Business Process Management (BPM) industry to generate \$166 billion in revenue. The Indian IT-BPM sector continues to be one of the largest employers in the country directly employing nearly 3.5 million professionals.

Above facts and figures imply that the BPO/BPM industry is huge and companies are paying a fortune to outsource their workload.

➤ **RPA – The BPO Killer!**

As already mentioned above, it could be much easier and effective if we can make a machine that would do all the boring yet important work for us. But, why would we hand over a task to a computer, when we can outsource the work?

Contrary to what many people believe, implementing a software solution to do all the routine office jobs automatically, is actually cheaper. But, can a system actually do the same kind of work that a human does?

Yes, it can. But, it needs to be trained first. So, we can not rule out humans entirely.

A RPA system can do common office tasks like generating reports, collecting information from existing documents, extracting and sorting information, etc. automatically. Such software solution can be deployed on-site or hosted on cloud depending on security and compliance requirements. One of the salient features of RPA system is that once it has been configured and set up according to the business requirements, it can then proceed to work on its own.

Applications of RPA

Most of the clerical jobs in any office involve collecting data from paper or digital format, sort them out or extract particular information as required and finally produce the result. However, we don't need to waste valuable time of workers anymore for such mundane tasks. A RPA system will be able to do these tasks once we configure them to do so.

This data processing can be done in different domains like banking, finance, insurance, healthcare, legal services etc. In order to utilize the RPA system, it doesn't matter which domain you are in as long as you have documents to process and results to be produced automatically.

Conclusion

There are already fully functional RPA systems in use, which can automatically complete any repetitive task a human being does, that too in smarter ways using cognitive technology. Due to huge benefits offered by RPA in terms of cost and operations management, a radical shift is expected to take place in the Back Office and BPO sector.

After all, why waste time, money and resources when a computer can do a smarter job!

The Rise Of Online Learning

Online learning has shown significant growth over the last decade, as the internet and education combine to provide people with the opportunity to gain new skills. Since the COVID-19 outbreak, online learning has become more centric in people's lives. The pandemic has forced schools, universities, and companies to remote working and this booms the usage of online learning. Even before the pandemic, Research and Markets forecasts the online education market as \$350 Billion by 2025, so the numbers might be updated after analyzing the growth impacts of COVID-19 on the online learning market.

About the market

There are numerous online learning platforms in the market such as Udemy, Coursera, Lynda, Skillshare, Udacity that serve millions of people. The platforms are getting shaped by different user verticals as well. While Skillshare is mostly for creatives such as giving courses on animation, photography, lifestyle, Coursera is mostly academic with giving access to university courses.

Top tier universities are also democratizing the learning by making courses accessible via online. Stanford University and Harvard University give access to online courses under categories of computer science, engineering, mathematics, business, art, and personal development.

These all show one thing, there's a huge demand from people to learn online. The reason for this demand and rapid growth of the market with a wide variety of platform options for different groups of people may be the rapid change of the world. At the recent \$50 Million round of Udemy, president Darren Shimkus says, "The biggest challenge is for learners is to figure out what skills are emerging, what they can do to compete best in the global market."

We're in a world that's changing so quickly that skills that were valued just three or four years ago are no longer relevant. People are confused and don't know what they should be learning." At this moment, online learning is becoming a huge catalyzer for people and companies to help the adoption of this rapid change in the world.

Advantages of online learning

All those online learning enterprises have a massive amount of user data which enables those platforms to use machine learning algorithms that can enhance the learning patterns of people. Machine learning algorithms use pattern recognition which can personalize the content for each individual. For example, when a student repeatedly struggles with a concept at the course, and the platform can adjust the e-learning content to provide more detailed information to help the student.

The instantaneous feedback loops inside the platforms which are provided by other online students or the platform improve the learning curve. This also offers shy or more reticent people the opportunity to participate in class discussions more easily than face-to-face class sessions.





Another big advantage is also time. People can arrange their schedules according to their convenience and this enables them to scale themselves. This represents a huge opportunity for entrepreneurs to increase their knowledge assets rapidly.

“While the online learning industry is growing at a rapid pace, it is now key to stay up to date with the latest developments. Entrepreneurs can dig into mastermind, coaching, and consummation programs to scale themselves rapidly. This is an incredible opportunity for those who go the extra mile,” Javid Niazi-Hoffmann, preeminent coaching consultant from Germany who is convinced of the power of online learning, states.

The cost structure of online learning is another factor for the rapid growth of the market. Online courses prove a more affordable option than traditional ones and there are no commuting costs, and sometimes required course materials, such as textbooks, are available online at no cost.

It's a fact that online learning is the future and will undoubtedly replace land-based learning in the future. Mobile platforms have given access to more people to benefit from online learning, and this has created a huge data, then machine learning has given personalized solutions to the course content with using the big data. In the future, it will not be surprising to see more elements in the online learning structure such as VR/AR or more advanced machine learning algorithms to democratize the learning more.

The New Normal

As the year began all of us concerned ourselves with doing something new and to live a little more everyday, unaware of the fact that a pandemic was on the shore and was ready to shut us down for several days, with a hope of the cure we all waited that life will be back to normal again but we are way-in mid of the October and the world presumes this is the new normal.

2020 has certainly hit everyone hard. Everything seems to have gone upside down post lockdown, Covid -19 has seriously brought a storm not only in one's life but also across industries and markets.

As long as there is no vaccine and there is no cure, the way we engage with goods and services will change. Many will refrain from the desire to touch and be touched. In just a few months, human contact has become one of the most feared gestures, not to mention the unthinkable scenario of being in a confined crowded space.



Businesses should acknowledge the long term changes created by the spread of Covid-19 and should adjust to thrive through these turbulent times, be it expanding product offerings, learning new ways to showcase products or transforming existing physical stores into online store, all while exploring various market strategies that will attract customers. The future will not be job-free but instead contact-free.

The desire to work from home will be coming true. But will it be beneficial for an organisation? The right workspace culture and setup can inspire and allow employees to make the most of their time in the office. It is crucial to inspire and motivate them to be the best they can be. If they are uninspired, they will find reasons to work less, and productivity will decrease. It is time for companies to allocate resources and budget for employees at home work-stations. Perhaps it is time to provide them with free mobile applications for meditation, healthy meals that can be delivered to their doorstep, an online wellness coach to stay fit and healthy physically and mentally.



The Novel Coronavirus pandemic has led many people to feeling lonely, helpless and looking for support, especially for those who have lost their loved ones, may not have a job or are facing huge losses in their business. But as it is said, hope is what keeps one alive. This is certainly one tough and challenging time but life need not be this scary. This is an amazing opportunity to learn, relearn and test one's capabilities. The pandemic has pushed us into maintaining social distance, but the challenge is to remain hyper-connected via the internet.





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