



Ministry of IT & Telecom
Government of Pakistan



Igniting Innovation in Pakistan Through 4IR Wave Tech

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September 21, 2017

Presentation Agenda



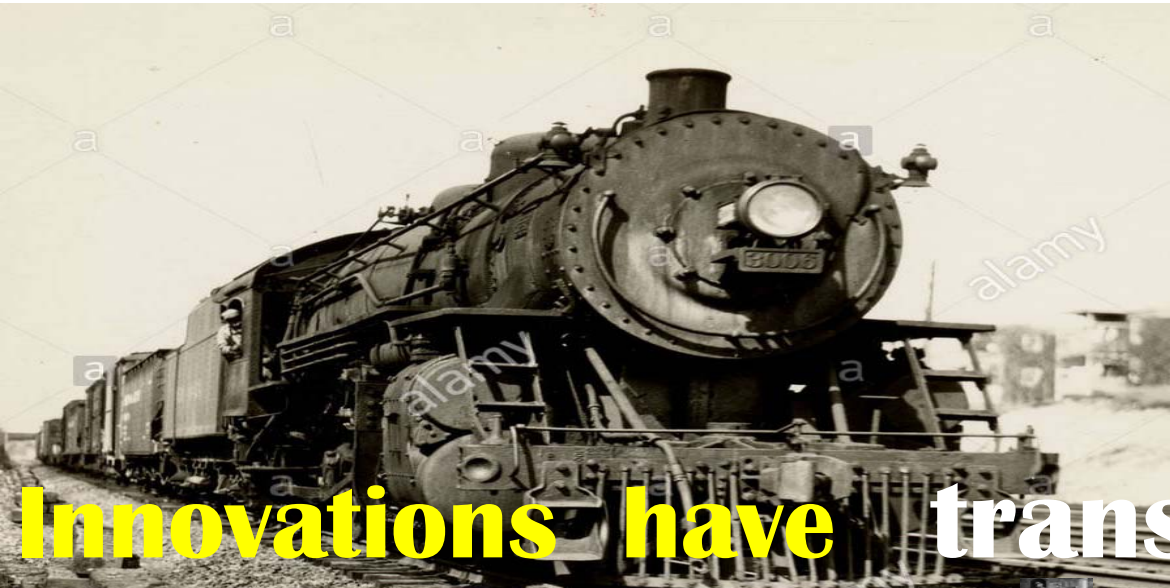
Five Ideas to Innovate and Make Digital Pakistan

Ignite & Future Roadmap



**Innovation happens
when an idea comes
out of your head and impacts society**





Innovations have transformed the very rhythms of history





Driven by accelerating innovation, Global GNP surged to over \$50 trillion over the last 200 years, after being negligible for the rest of history



Idea One

**Innovation drives
prosperity, but
also disrupts**



1st Industrial Wave: The Steam engine shortened trade routes, boosted prosperity



2nd Industrial Wave: Electricity lit up the night and powered machines



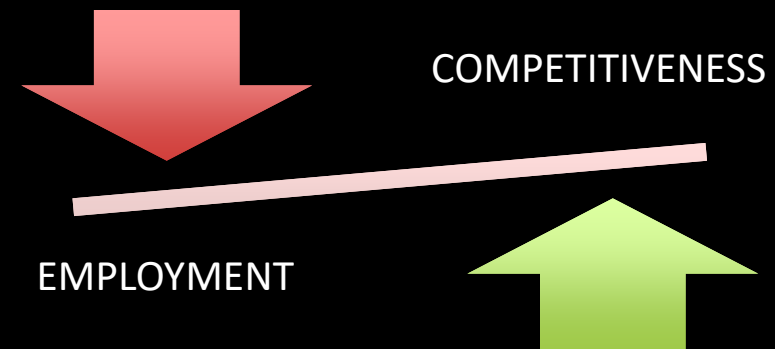
3rd Industrial Wave: IT increased productivity across sectors





Now, young lawyers in USA finding it harder to get jobs as **Artificial Intelligence (AI)** does legal research better. Pakistani hospitals considering AI diagnostics.

Indian textile manufacturer, Raymond, is replacing 10,000 employees with **robots**



Idea Two



The next innovation wave is the 4th Industrial Revolution, comprising cyber-physical-digital tech





Become producers of tech, not just consumers.

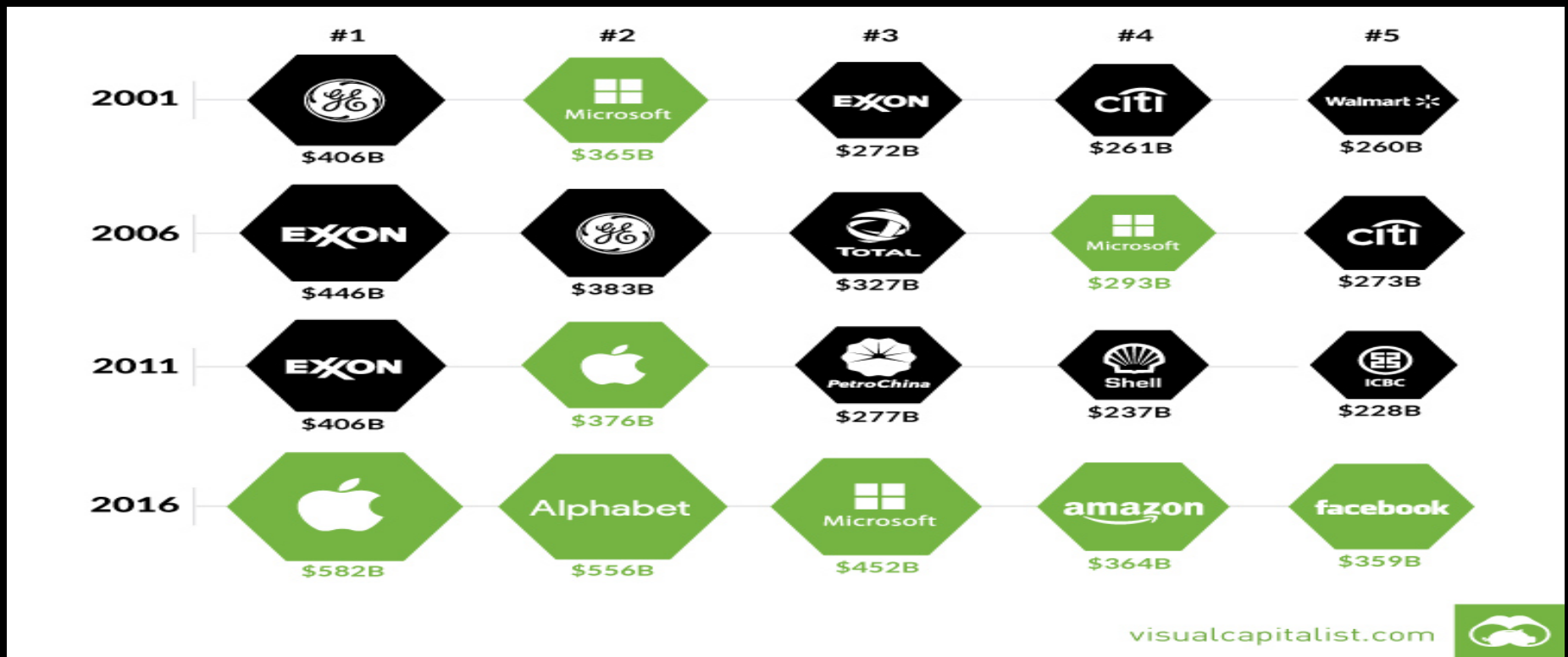
Workers earn Rs 150,000 a month on higher value added tasks, rather than Rs. 15,000 as domestic servants or day laborers.

Over the last two decades, the organizational structure that has innovated is the Startup. It combines a long term scaling plan, tech development, market knowledge, and agile execution with risk taking. It is distinct from a small business, which supports life styles.

Startups fail, people don't

**Because each Startup failure is
an opportunity to learn and
grow.**





Tech companies have surged over the last two decades to become the most valuable in the world



Idea Three

**Startups are the
building blocks of
the emerging
economy**





“We cannot afford to just learn, we must learn to learn”

- TONY MURPHY, GARTNER,
PAKISTAN IT INDUSTRY REPORT

The pace of change is so high that you have to make sense of entirely new situations. Most of what you learn in college will be obsolete by the time you graduate. Most of the jobs of the next generation are not even invented yet!



**Power skills, that empower you, like
Creativity, Communications, Risk Taking,
Initiative underlay any technical skills like
Data science, Cyber security and AI support**





Idea Four

**The Future of
Work will be very
different**





**Innovation does not happen
in a vacuum. It needs a
mindset, skills,
organizations, legal
structures, funding, demand**



**Government after government has
provided incentives, contracts,
funding, IP, incubators, skills
development for Startups**



Idea Five

The Government has a role in developing the innovation ecosystem



Presentation Agenda



Five Ideas to Innovate and Make Digital Pakistan

Ignite & Future Roadmap



Creating a Knowledge Economy

- Mandate of the Fund is to create a knowledge economy through innovation and commercialization of research.
- A Guarantee Limited Company, incorporated in 2006 by the Federal Government, under Section 42 of Companies Ordinance, 1984.
- Sources of funding: 0.5% Gross Revenue of Telecom operators.
- Core business to fund Technical R&D, Innovative and HRD projects in ICT that impacts the economy.



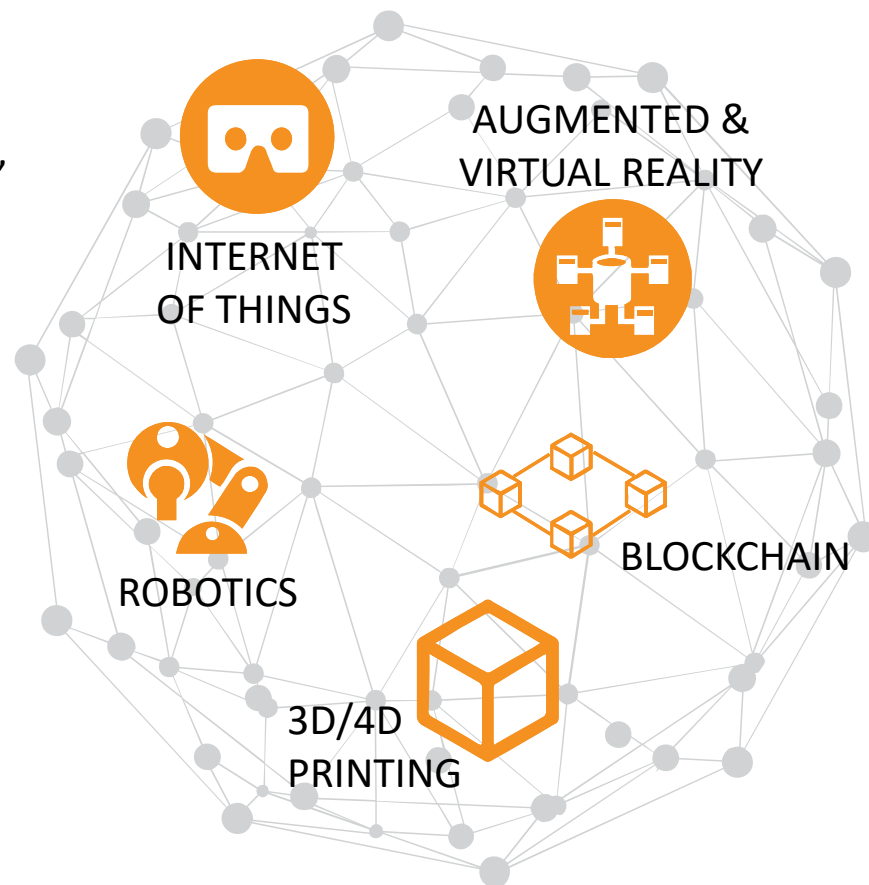
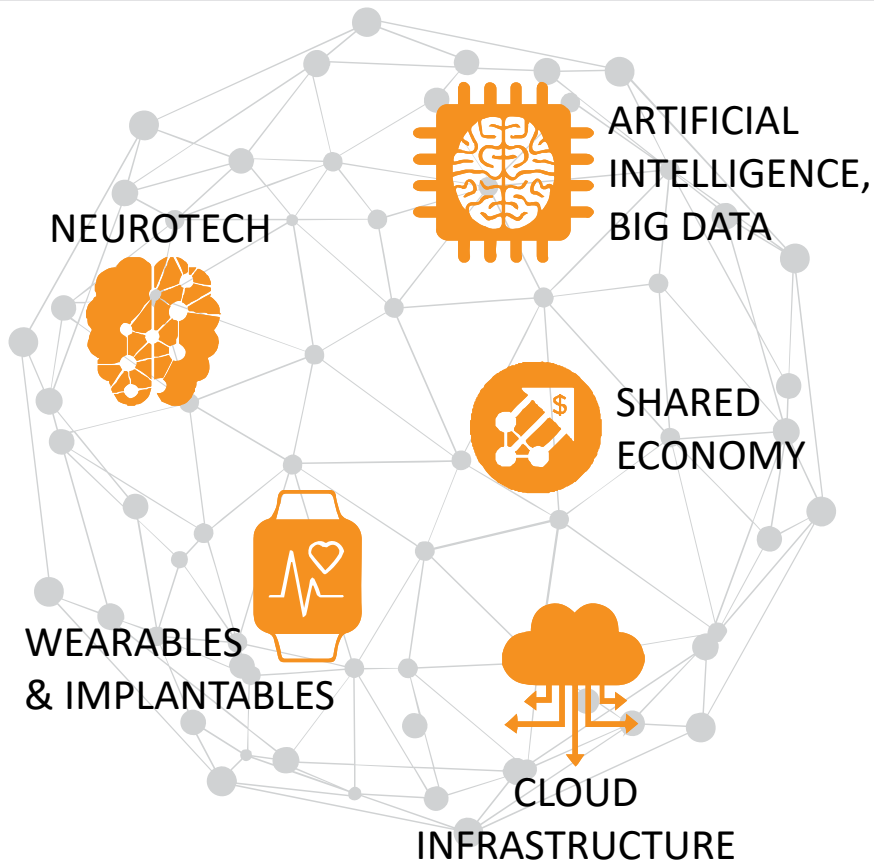
A Transformative Mission that Focuses on the Emerging Building Blocks of the Next Decade



To make Pakistan a global player in the knowledge economy by providing Venture Capital funding to startups focused on fourth industrial wave technologies and by addressing gaps in the entrepreneurial ecosystem.



Funding Startups with Focus on 4th Industrial Wave Technologies



Startups are the Building Blocks of the Knowledge Economy



5 National Incubation Centers worth US \$30 million

3 Specialty Incubators planned

141 Tech Projects worth US \$22 million funded

Future focus on startups

More than US \$40 million spent on ICT scholarships & internships

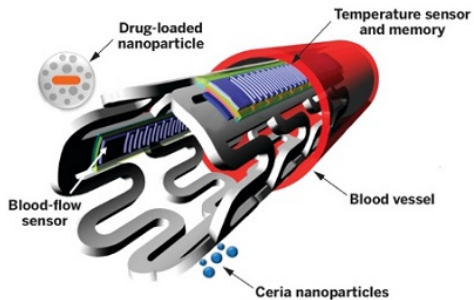
Planned Digi-Skills program to train 1 million people

3-year tax exemption for startups

Future incentives for startups, VCs, Angel investors & incubators



Some of Our Recent Investments



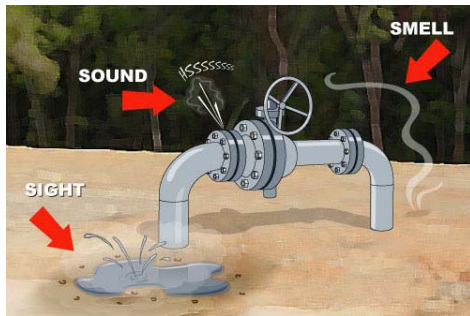
Smart Hearts Saving Lives



Fast Track Diagnostics Ease TB Dangers



The Drug Database: Quality @ Hand in Glove with Nature



Energy Watch: Preventing Pilferage, Saving Costs



Fly High with Wi-Fi: HAPS are Finally Happening in Pakistan



Sight Seeing with Wearable Tech: A Ray of Hope for the Visually Impaired

Some of Our Recent Investments



Telecom Talkies: Let's Talk
(at Low Cost!)



Robust Attack Evasion: Mission
Impossible Goes High Tech



Virtual Bandwidth: On
More Scalable ISPs



Sustaining Systems for Real
Time Rural Irrigations



Big Data is Happy: Video
Search @ Your Fingertips!



Tracking Student Disorders: Early
Detection E-Learning Systems for
Psychological Response

Over 100,000 Sq. Feet of Incubator Space to Nurture the Startup Ecosystem



Training 1 Million Individuals - One of the World's Biggest Digital Skills Training Program



Digi-Skills Taxonomy is the Foundation for Curricula Development

- AI
- Data Science
- IoT
- Web & Mobile
- Cyber Security
- Cloud Infrastructure

IT Skills



- Digital Marketing
- AutoCAD
- E-commerce
- Ms Excel
- Creative Writing
- Wordpress

Non-IT Skills



- Digital Literacy
- Profile & Self Marketing
- Bidding & Negotiating
- Microwork

Freelancing



- Communication Skills
- Self-Motivation
- Time Management
- Problem Solving Skills
- Team Working Skills

Soft Skills



Pakistan Stack Leading Towards a Presenceless, Paperless & Cashless Society



CNIC

Using 13-digit unique NIC to verify individuals based on bio-metric and demographics



BIO METRICS

Verification of Customers electronically through NIC/Mobile Phone authentication from customer (NADRA) database, leading to Financial Inclusion.



DIGI LOCK

Driving license, transcripts, etc.

Digital Doc Locker for issuing and verifying personal documents in a seamless manner.



APIs

SIM issuance, utility connections, tax returns, etc.

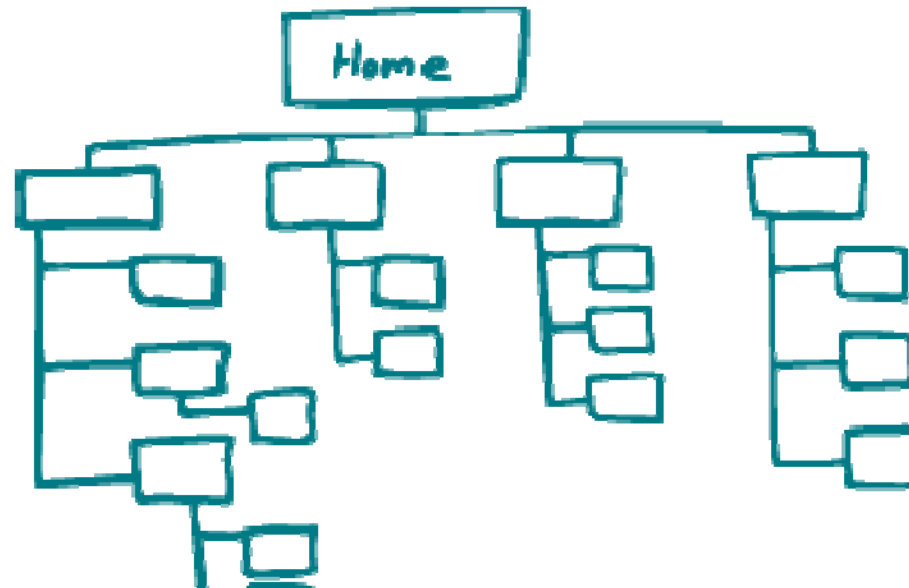
Platform for APIs that allow governments and private companies to deploy cashless and paperless technology products.

Startup Portal Pakistan Will Form the Central Hub for the Entrepreneurial Ecosystem



Portal Sitemap

- Startups
- Incubators
- Funding/Investors
- Incentives
- Accelerator Kit
- News/Events
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Thank you!

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