



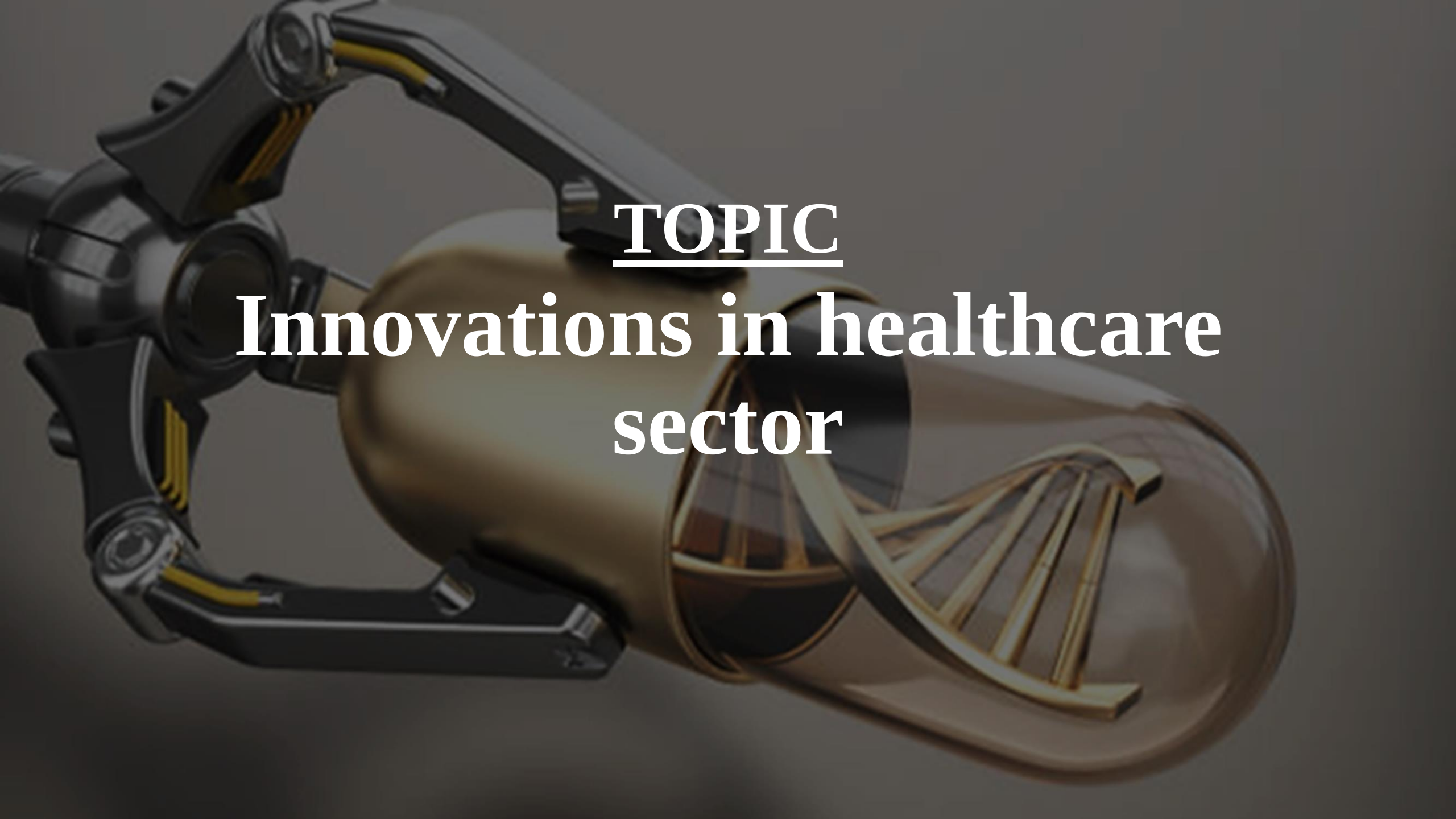
SUMMER TRAINING REPORT

BY

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A conceptual image representing healthcare innovation. It features a dark, metallic robotic arm with yellow accents, holding a glowing, translucent DNA double helix structure. The background is a dark, muted gray.

TOPIC

Innovations in healthcare sector

INTRODUCTION

- **HEALTHCARE SECTOR**

- The health care industry is one of the largest industries in the world, and it has a direct effect on the quality of life of people in each country.

- The health care industry, or medical industry, is a sector that provides goods and services to treat patients with curative, preventive, rehabilitative, or palliative care.

1. **PUBLIC HEALTHCARE**

2. **PRIVATE HEALTHCARE**

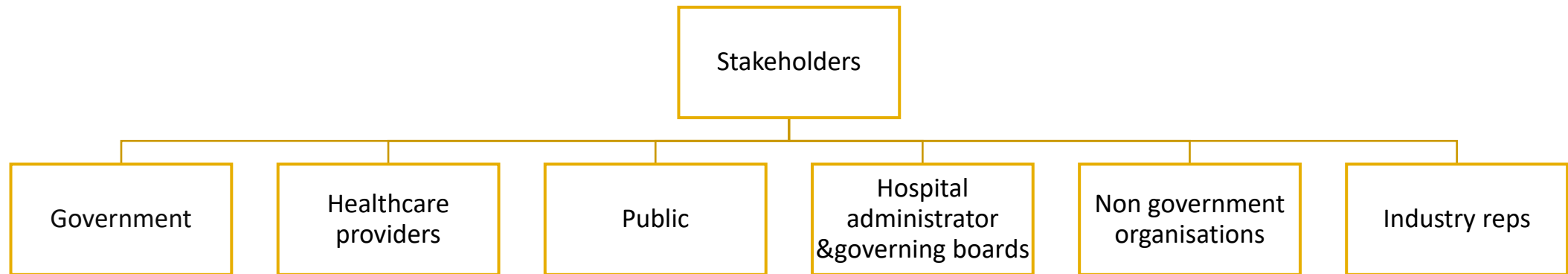
Objectives

To find out the innovations that have been done by each healthcare stakeholder.

To find out the product, process and paradigm shift innovations that have been done, to improve the healthcare services and products.

Healthcare stakeholders

Stakeholder is a person, group, organization, system who affects and can be affected by an organizational behaviour.





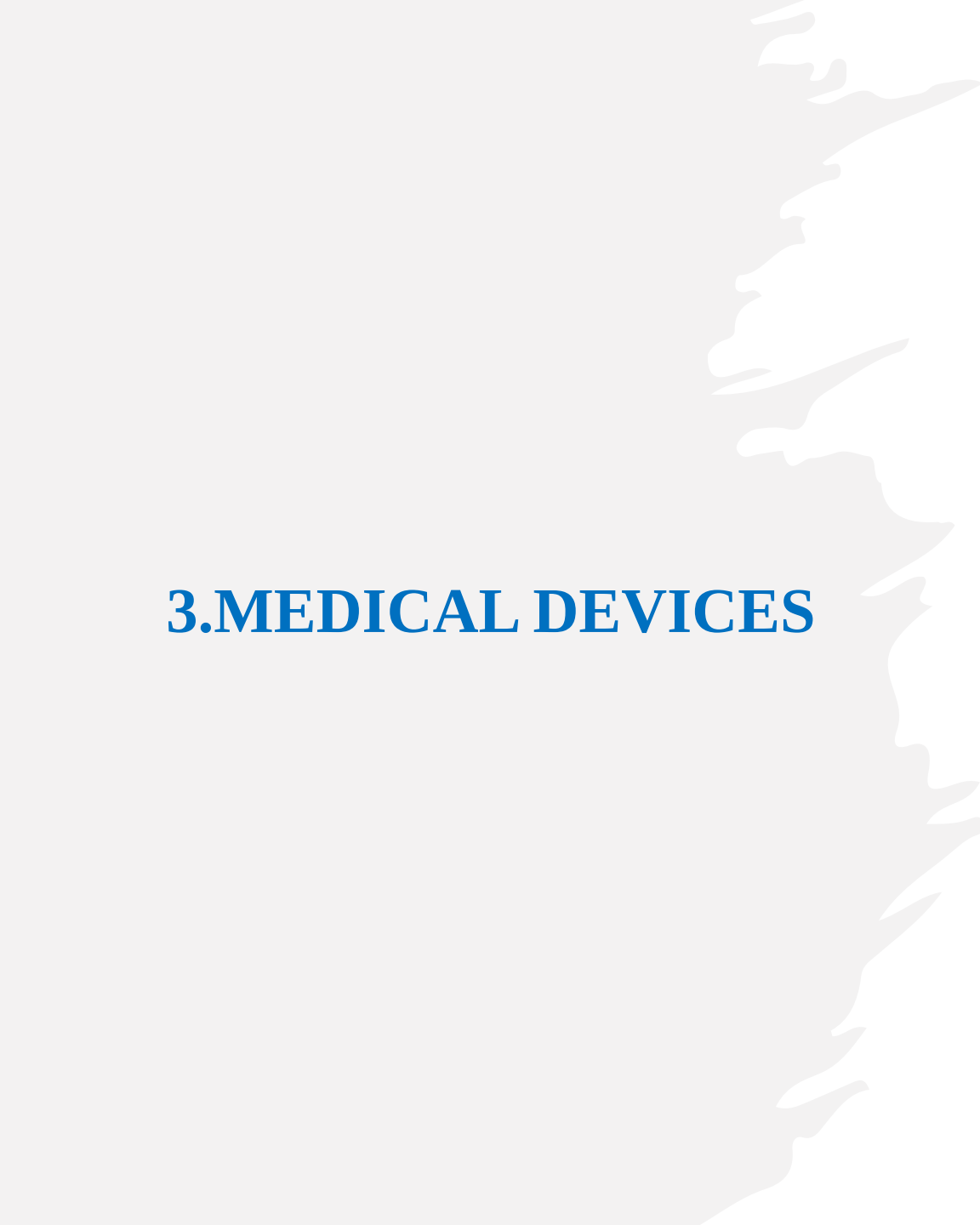
1.GOVERNMENT

- **Mukyamantri Chiranjeevi yojana**
- **Chandranna Sanchara Chikitsa**
- **NTR Vaidya pariksha**
- **Sardar Vallabh Bhai Patel Free Drug Distribution Yojana.**
- **Mahatma jyotiba phule jan Arogya yojana**
- **MP aushadi**
- **Karunya health scheme**



2.INSURANCE

- **New Indian Asha kiran policy**
- **Sixty plus Mediclaim policy**
- **New Indian corona kavach policy**
- **Care health insurance**
- **Star micro rural and farmer's care**
- **Star cardiac care**
- **Care freedom**
- **Optima restore policy**
- **Wellsurance women policy**



3.MEDICAL DEVICES

- Human alveoli lung-on-chip model
- Smart knee implant chip
- MitraClip
- Cala trio-cala
- HeartLogic
- Axios stent and electrocautery
- Sonendo's GentleWave



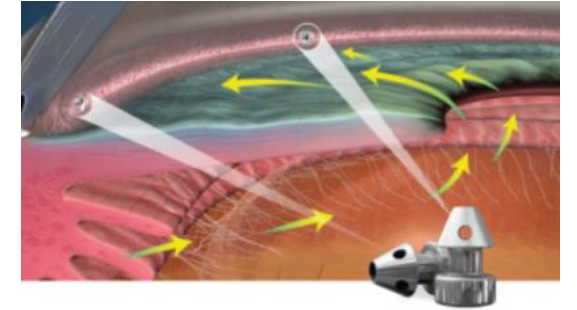
Axios stent and
electrocautery



Trio-cala



MitraClip



Sonendo's
GentleWave



4. RESEARCH AND DEVELOPMENT

- Relatlimab
- Semaglutide
- Aducanumab
- Sepofasrsan
- Deucravacitinib
- Mirikizumab
- Research on why aortic aneurysms
- Larazotide



5.MARKETING

- Digital marketing
- Video marketing
- Omnichannel marketing
- Visual and augmented reality
- Artificial intelligence & machine learning
- Social commerce



6.SUPPLY CHAIN

- Block chain
- On demanding warehousing
- Collaborative mobile robots
- Truck platooning
- Tagging, sensors, geolocation technologies
- Big data & artificial intelligence
- Robotics and automation in logistics
- Autonomous vehicles and eco fuel for delivering.
- Crowd shipping

The background is a blurred photograph of a laboratory. In the foreground, a glass pipette is visible on the left, and several test tubes are arranged in a row. In the background, a microscope is partially visible. The entire image has a blue color overlay.

Product innovation

PRODUCT INNOVATIONS

Product innovation is defined as a subsequent introduction of new product or services or improving the already existing product.

➤ Nano technology in pharmaceuticals

Example –

- **Albupax**
- **Taxedol**
- **Lipodox**
- **Paclitaxel injection**
- **Docetaxel injection**

➤ 3 D printing medicine

Example – **spritam**

➤ Precision medicine

Example –

- **Capmatinib (tabrecta)**
- **Pembrolizumab**
- **Selpercatinib**

➤ Hot melt extrusion

Example –

- **Rezulin**
- **Implanon**
- **Kaletra**

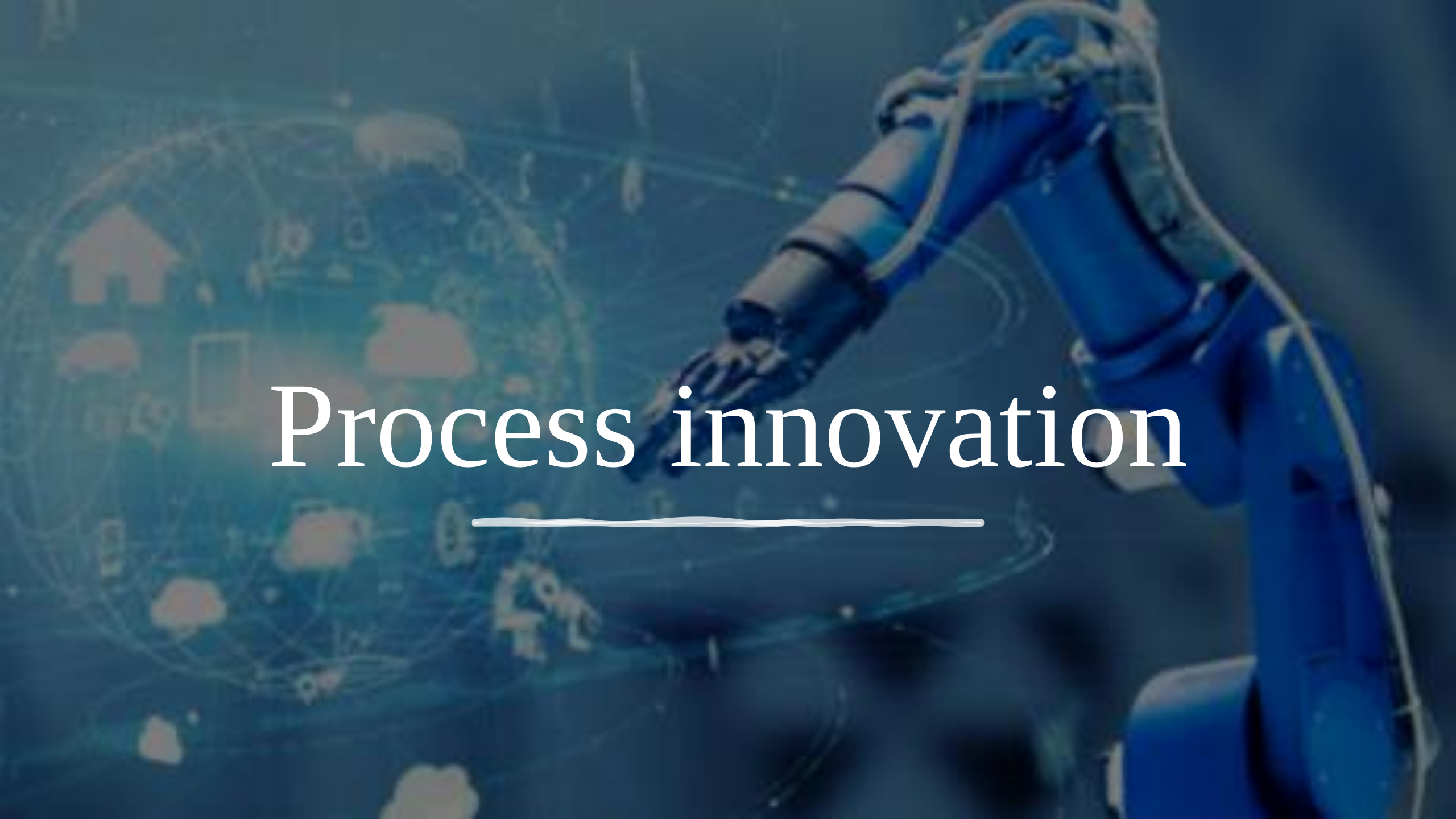


VACCINE INNOVATIONS

- **Micro array patches**
 - measles, mumps, rubella
- **Quantum dots delivery vaccines**
- **Monovalent vaccines**
- **Virus like particles (VLP) Vaccines**
 - Gardasil
 - Engerix
- **Combined vaccines**
 - Pediarix- GSK
- **Viral vectors vaccines**

INNOVATIONS IN DRUG DELIVERY SYSTEM

- **Needle free technology**
- **Microscopic drug delivery**
- **Jet injection**
- **Receptor specific delivery**
- **Nano carrier system**
- **Smart drug delivery system**
- **Lipid based drug delivery system**
- **Bio cluster nano bomb**
- **Ultrasound guided delivery**
- **Micro needle patches**



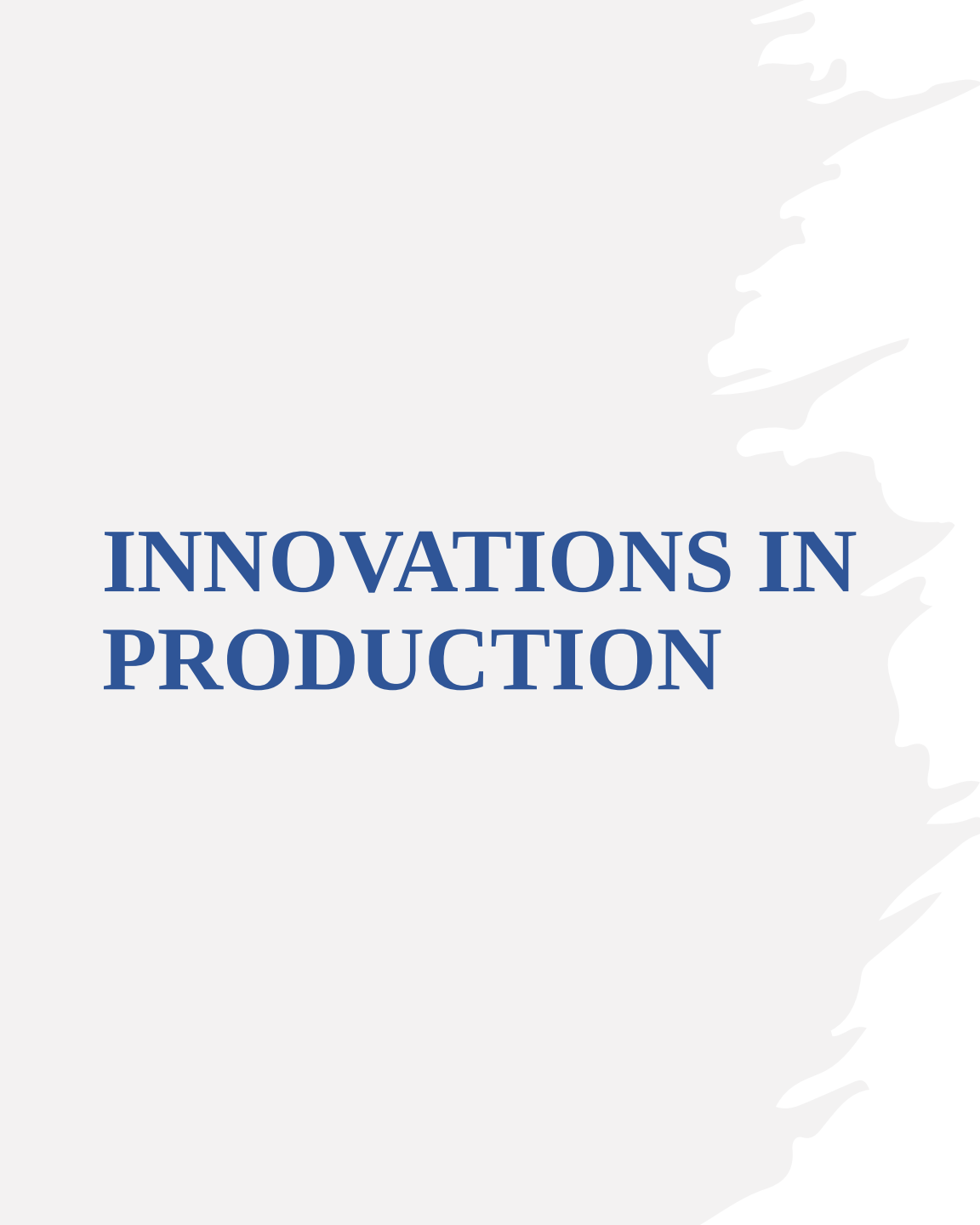
Process innovation



PROCESS INNOVATION – PROCUREMENT

- **Digital strategy**
- **Smart financial solution**
- **Intelligent contracts**
- **Workflow update**
- **Smart procurement tools**
 - Supplier management tool
 - Quick sourcing software
 - AI – powered contact management.

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INNOVATIONS IN PRODUCTION

- **End to end
manufacturing**
- **Sustainable packing**
- **3D printing**
- **Automation**
- **Artificial intelligence**
- **Machine learning**



INNOVATIONS IN DELIVERY METHOD

- **Drone delivery – vaccine delivery in Africa**
- **Automated vehicles delivery**
- **Delivery bots**



INNOVATIONS IN WAREHOUSE INVENTORY MANAGEMENT

- **Automated identification and data collection**
- **Warehouse robotics**
- **Layer packing**
- **On-Demand Warehousing**
- **Warehouse robotics**
- **Voice tasking technology**
- **Automated picking tools**
- **Automatic guided vehicles**
- **Yard management system**
- **Cobot**
- **Inventory drone**



INNOVATIONS IN LOGISTICS

- Wireless fleet management
- Virtual calling system
- Automation – labelling , packing , sorting
- Blockchain – recording transactions
- Digital logistics technology
- Sustainability in logistics
- Telematics
- Green logistics
- Use of autonomous vehicles
- Use of alternative fuels
- Use of drones



MARKETING INNOVATION STRATEGIES

- **Digital marketing**
- **Social media marketing**
- **Personalization**
- **Chat bots**
- **Influencer market ship**
- **Hash tag**
- **Video marketing**
- **SEO**



Paradigm innovation



PARADIGM INNOVATION

- e- Patients
- e- Physicians
- Smart Hospitals
- Tele Consultancy
- Tele Medicine
- Remote Patient Monitoring
- Wearable Sensors – To Detect And Monitor The Vitals
- Insidable Devices
- Electronic Medical Records
- Health Portals
- Organ Specific Therapies Through Precision Medicine
- 3d Printing Of Human Tissues And Prosthetics
- Quantum Computing
- Internet Of Things – Auto Bed
- Automatic Medical Priorities
- Robotic Surgery

Conclusion

Innovations are necessary in every sector and organization, to make things easier and to provide the services and products at faster pace to the stakeholders of the sector. As healthcare sector is no exception, with emerging situations and diseases healthcare sector is the one which needed innovations in every aspect from the research and development to the handing over the product or services to end customer. With change and evolving technology, most of the innovations have been done to make things easier and providing the services with customer and stakeholder satisfaction is the main concern of healthcare system.

With implementation of the technology most of the things are moving into digital world, from the taking orders and delivery of the product, from the physician consultation to the collecting samples for the lab reports and online transfer of the reports and medical prescription, this innovations are helping people and making things cost effective, without concerning the geography and physical presence functions are happening smoothly.

Every stakeholder plays important role from scheme initiation from the government and changing the rules and regulations to innovative insurance policy making, all of these are directly or indirectly showing the results by proving the services at affordable prices with quality.

Innovations in R&D and production and service departments are providing the things at faster rate along with maintaining the sustainability.

Product, process, and paradigm shift in the healthcare sector are happening at faster rate to make end customer satisfy.

These innovations made the work faster and gave time to think about how to make and provide services in better way.

These all innovations are helping end customers.



THANK YOU