



Andhra Pradesh- Opportunities in IT & ITeS

- Bhavna Saxena, IPS

Special Commissioner, AP Economic
Development Board

Vision Statement

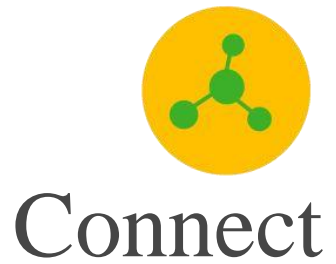
“The people of Andhra Pradesh envision transforming their state into happy, inclusive, responsible, globally-competitive and innovation-driven society through structural transformation and by sustaining double-digit economic growth to become one amongst the three best states in India by 2022 and the best state by 2029.”



*Shri Nara Chandrababu
Naidu*

(Hon'ble Chief Minister of Andhra Pradesh)





“It is my dream to ensure that every household in the state has access to internet and every family reaps the benefit of it.

Internet, video and telephone services will be provided at the doorstep through the project.”

Shri

*Narachandra Babu
Naidu
of Andhra Pradesh)*

(Chief Minister

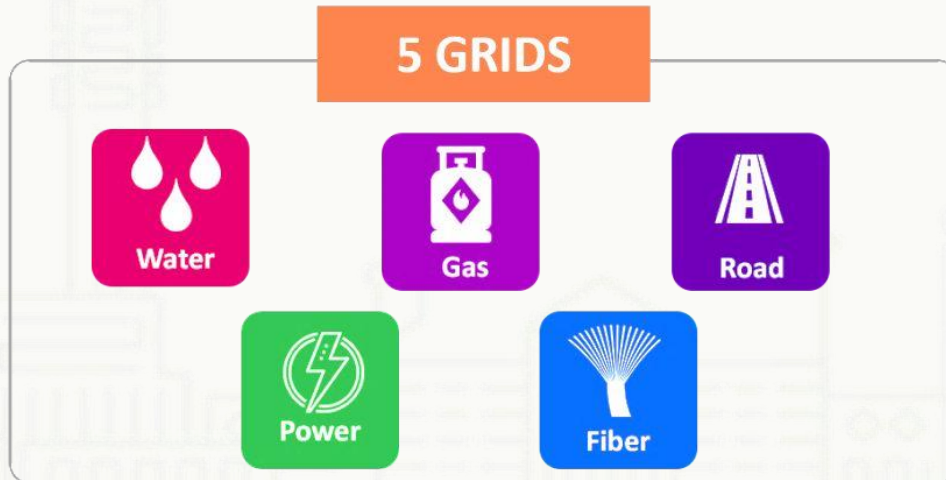
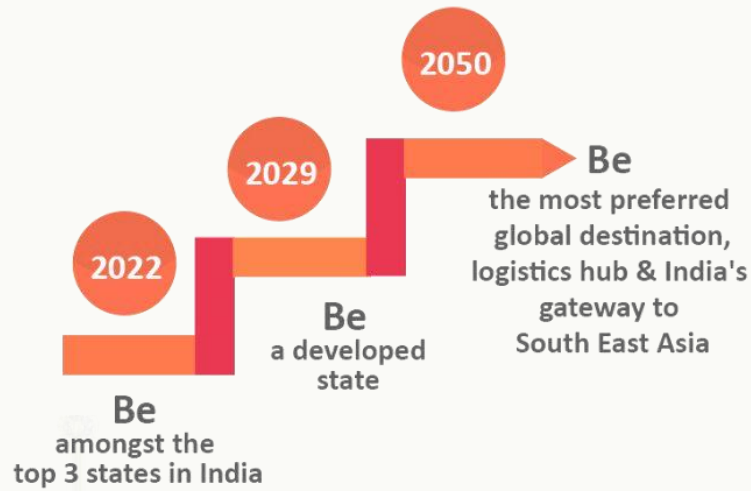


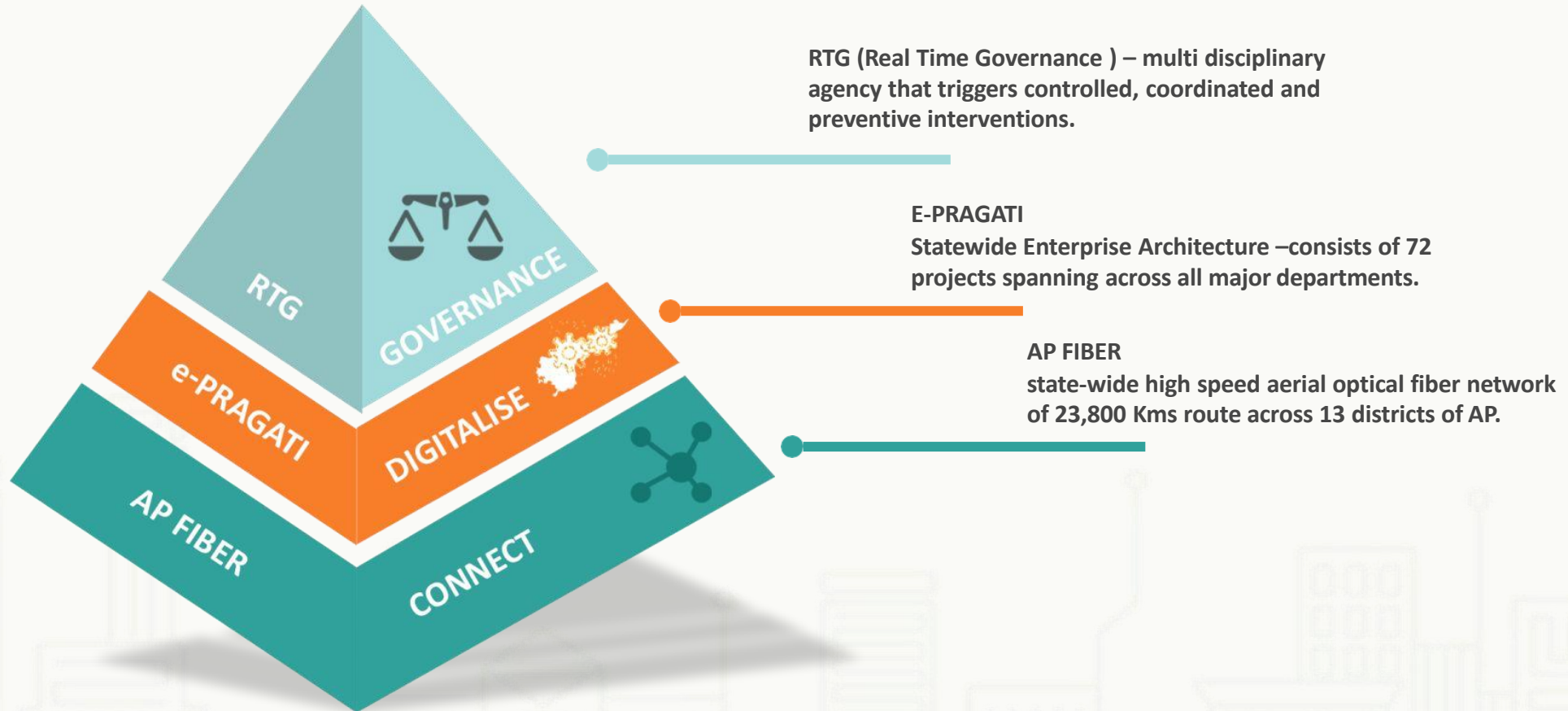
DIGITAL ANDHRA PRADESH

A P Fiber Vision

To establish a highly scalable network infrastructure accessible on a non-discriminatory basis, to provide on demand , affordable and end-to-end broadband connectivity of 15 Mbps for all households and 100 Mbps for institutions and offices by 2018 to enable realization of the vision of Digital AP, in partnership with Government of India and private sector.

ANDHRA PRADESH VISION AREAS



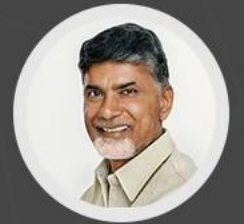
ANDHRA PRADESH - APPROACH

DIGITAL ANDHRA
PRADESH

AP FIBER

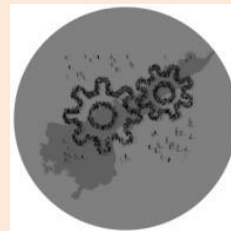


ANDHRA PRADESH
India's Sunrise State



CONNECT

Build the necessary infrastructure
to connect the state.



DIGITIZE

Digitalise all the data. So the
necessary information can flow
quickly.



GOVERNANCE

Monitor the state

Andhra Pradesh ICT Ecosystem - Overview

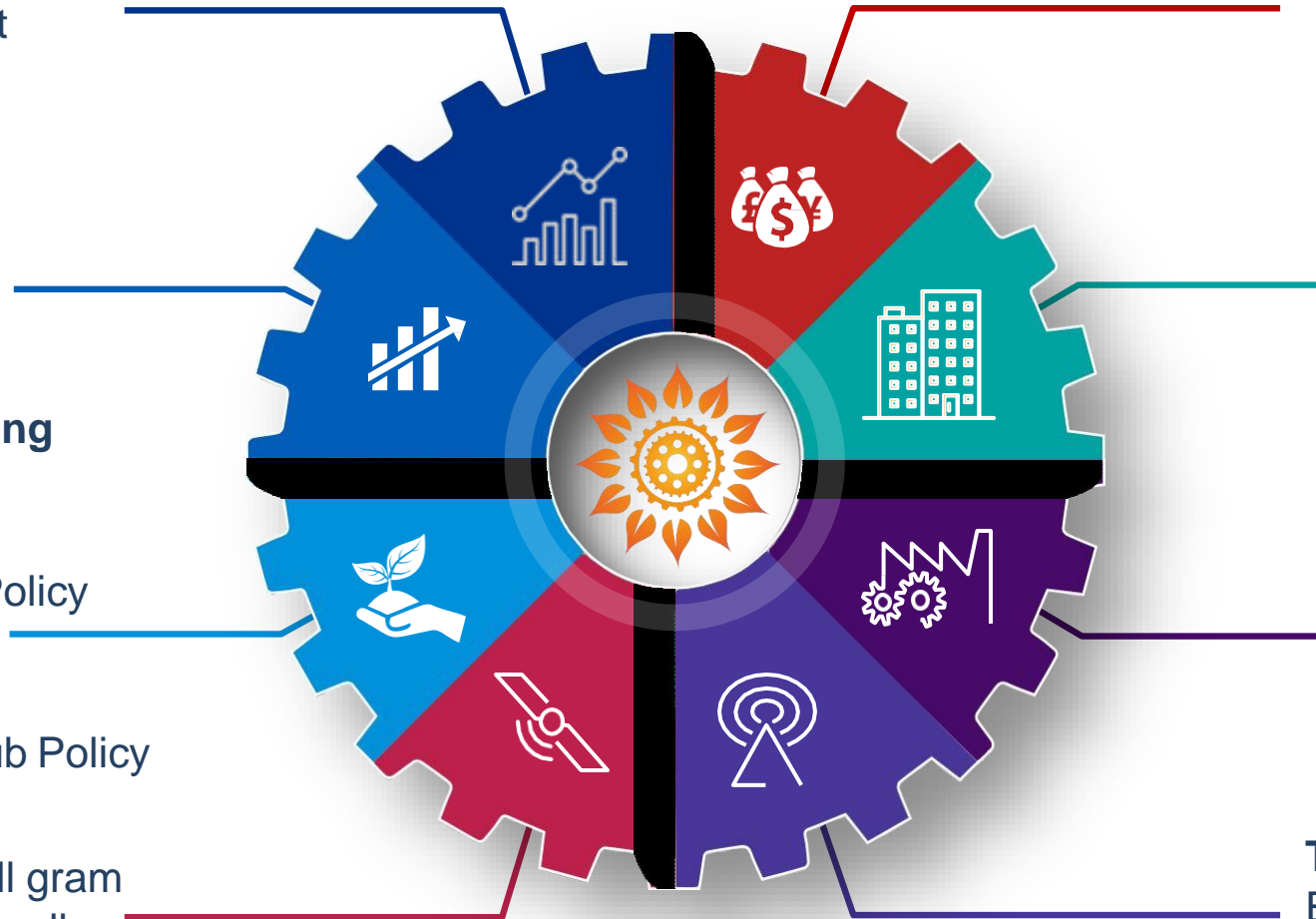
USD 56.6 Mn IT/ITeS exports in FY 2017-18, at growth of 40% YoY

Recorded **120+ IT Companies** and **170+ Start-ups** in 2017-18

Policies governing emerging technologies such as

- AI & Cloud Hub Policy
- IT, Start-up & Innovation Policy
- IoT Policy
- DTP Policy
- Gaming and Animation Hub Policy

Gigabit connectivity to all gram panchayats by 2017 and to all villages by 2020



To attract **USD 2 Bn worth investments** in IT/ITeS sector

Emerging Ecosystem

- FinTech Valley
- IIDT
- Integrated Innovation and Technology Park
- Industry-Academia Collaborati

4 cities to be developed with IT/ITeS focus- Amaravati, Visakhapatnam, Tirupati and Anantapur

Telecom Infra –

Every house to have 15Mbps connectivity at affordable prices and 100Mbps to 1Gbps for institutions and offices

▪ AP IT Overview & Opportunities

- Innovation within Governance
- AP Fibre Grid Project
- Key Players in IT/ITeS

▪ AP IT Policy Frameworks

▪ Workforce & Skillset

Transforming Governance Through Technology

CORE Dashboard



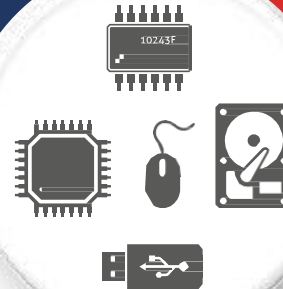
Shifting gears towards Intuitive Governance

>12 Lakh IoT Devices

Across 33 Departments

Built in Analytics

1



3

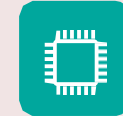
Real Time Governance



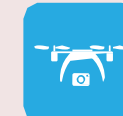
Biometrics



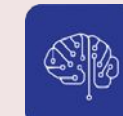
Surveillance



Sensors



Drones



Data Analytics

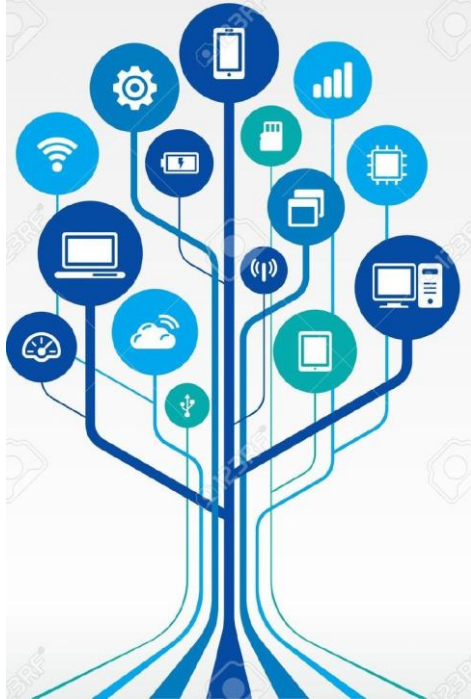
2

AP FIBERNET

End to End broadband connectivity upto 1 Gbps

Create an efficient ecosystem for delivery & consumptions of digital services

AP Fibre Grid Project – Driving Connectivity in the State



The project involves laying of 23,000 km optical fibre network at an **estimated cost of USD 51.4 mn**

Phase 1 – Aerial Fiber Grid

Creating an aerial fiber network by leveraging assets of electricity companies

Phase 2 – Underground Fiber Grid

Creating an underground fiber network covering **12,918 gram panchayats**

Coverage

- **15 Mbps connections** will be made available to **14.5 million households** at INR 149 per month by The Andhra Pradesh FiberNet
- On-demand availability of **100 Mbps – 1 Gbps connections** for business enterprises, leveraging assets of the State's Electricity Dept

Project Overview

- **A 24-Core Optical Fiber Cable** will be laid for a length of around 23000 kms over the electrical poles with its back-end electronic systems being set up at the Points of Presence (PoPs) at 2449 identified sub-stations
- **A state-wide control and command center** for this entire network is being set up at Visakhapatnam as a Network Operations Center (NOC)

Google [x]

- To set up a development centre in Visakhapatnam, **its first outside the US**
- To setup **2,000 FSOC links to connect far-flung regions in the State**
- **To bring high-speed internet (20 Gbps) and broadband connectivity** to 12 million households, government offices and 1,30,000 private enterprises

Key Partners – Operating and Upcoming Companies

Key
Operational
Companies



Upcoming
Major
Companies

- AP IT Overview & Opportunities

- AP IT Policy Frameworks

- Artificial Intelligence Policy 2018-20
- IT, Start-up & Innovation Policy 2014-20
- Integrated Innovation and Technology Park Policy 2017-20
- Cloud Hub Policy 2018-20
- Animation, VFX, Gaming and Comics Policy 2018-20
- AP Designated Technology Park Policy 2017-20
- AP Cyber Security Policy

- Workforce & Skillset

AP Artificial Intelligence Policy 2018-20 – Framework

Key Enablers

AI Research & Development

AI Workforce

AI Testing

AI Regulation

Focus Areas



Employment generation in cognitive technology



Impetus to AI testing in the state



Development of new technologies and solutions



Government participation in research and development

- INR 60,000/employment generated for mega Projects
- INR 40,000/ employment generated for other projects

Land Subsidy

- INR 50,000/1,00,000/1,50,000 depending on the nature of the project – consistent with the IT policy

Employment Subsidy

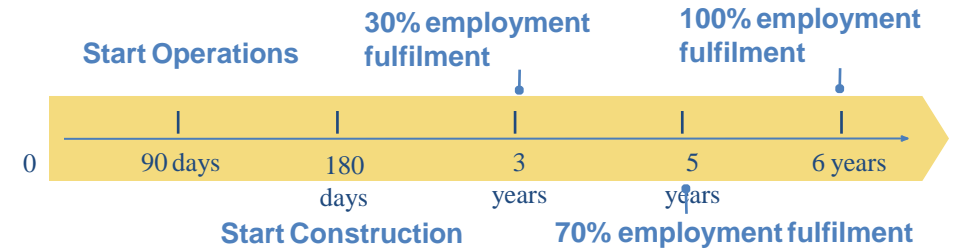
- **Co-financing of industry sponsored research:** INR 25 lakhs for AI related projects of public importance where an equal amount has been funded by private/public sector companies
- **Patent Registration:** 75% of the cost subject to a maximum of INR 6 Cr.

R&D Incentives

AP IT Policy 2014-20 – Framework

Land Allotment

- IT/ITES units with IT/ITES employee strength of 250 and annual turnover above Rs.25 cr.



Lease Rentals (under DTP* Scheme)

- Reimbursement of 50% of Lease Rentals paid to the infrastructure provider, subject to a maximum of Rs.10 lakhs per annum, for a period of 3 years

Bandwidth/Connectivity

- Reimbursement of 25% (Internet charges) paid to Internet Service Providers, subject to a maximum of Rs.15 lakhs per annum, for a period of 3 years

Skill Up gradation & Training

- 50% reimbursement of the cost incurred subject to a maximum of Rs.10,000/- per employee for 3 years

Stamp Duty, Transfer Duty and Registration

- 100% reimbursement of fee paid towards on rental/lease premium/ lease deeds on the first transaction and 50% thereof on expansion

Employment Subsidy

- INR 50,000 per employee or 6 months CTC
- INR 50,000-1,00,000 per employee or 6 months CTC
- INR 1,50,000 per employee or 6 months CTC

Mega Projects

General Projects

MSME/SC/ST/BC /Women/Rural Projects

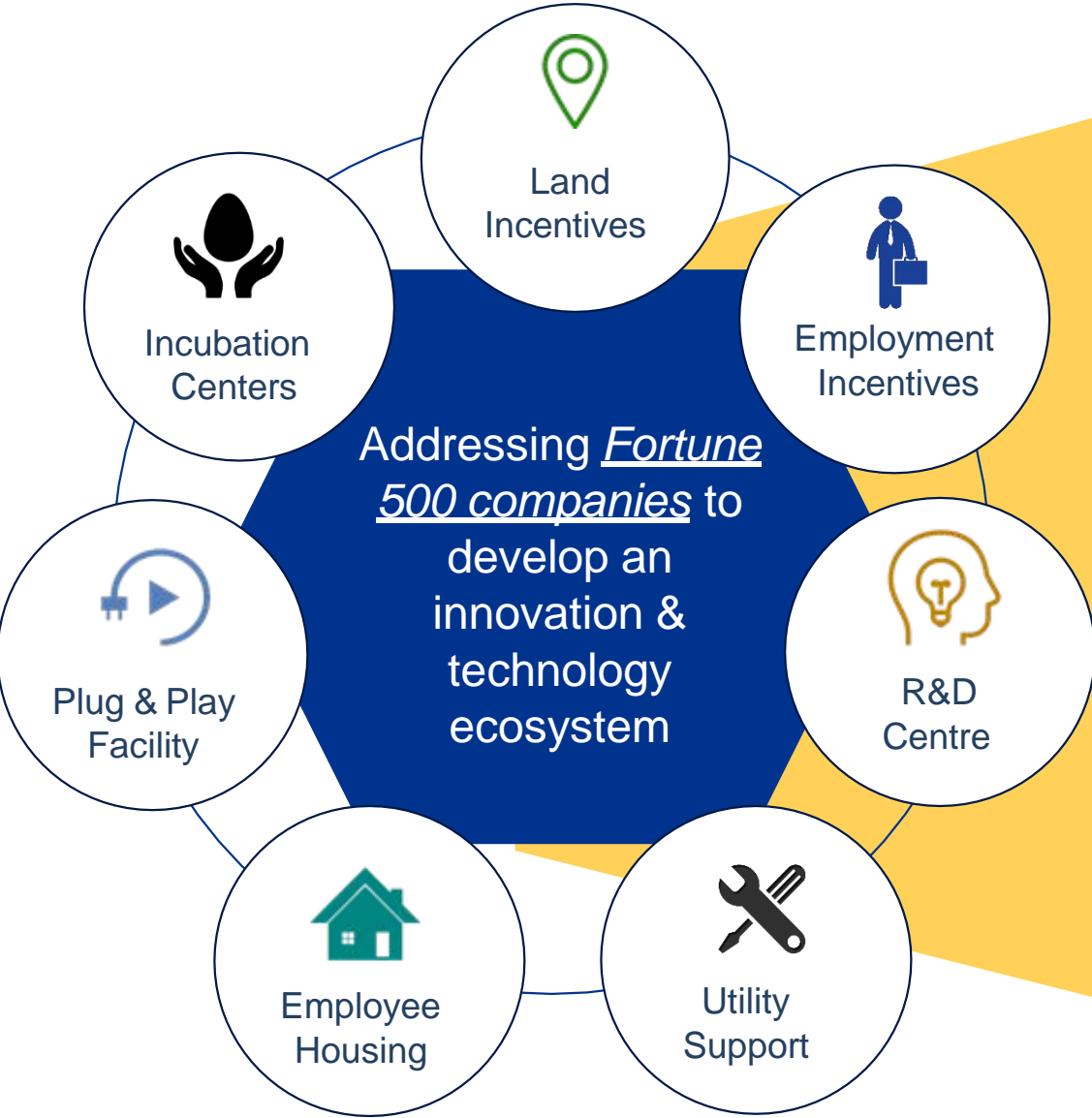
Power Subsidy

Interest Rebate

- Reimbursement of @ Re.1/- per unit consumed for a period of 5 years
- 100% Reimbursement from Electricity duty, for a period of 5 years
- 5% for a period of 7 years subject to maximum of Rs.1 Cr per annum

* Designated Technology Park

An Integrated Innovation and Technology Centre – 2017-



Setup at least **1** Integrated Innovation and Technology Campus by **March 31, 2020**



An Integrated Innovation and Technology Centre – Policy

Fortune 500 companies or alternatively Fortune 1000 companies and large Indian companies

Minimum market cap of \$5B

Minimum annual turnover of \$1B over last 5 years

Create 2,500 employment in 7 years

Project investment to be \geq ₹250 Cr over 7 years

Committed to invest and nurture at least 5 state grown start-up companies

LAND & INFRA

- Allotment of land at **nominal prices**;
- **Mixed zoning and other such zoning** allowed as deemed fit by GoAP
- Creation of **100 employees/ acre** high-end direct employment in emerging technologies
- **Sub-leasing of IT space permitted**

EMPLOYMENT

- **INR 1,00,000/-** per additional employment generated or **6 months** cost to company, whichever is lower

ECOSYSTEM

- Incubation center/ Plug & Play facility allotment at **nominal rate for 2 years** or until **creation of captive infrastructure** by proponent, whichever is earlier
- Facilities allotment at **subsidized cost** of not less than **50% of the market value for 3 years** or **completion of captive infrastructure**, whichever is earlier.
- **100% SGST** reimbursement on goods and services by incubator to incubated within AP

DATA CENTRE

- **RoW at zero cost** provided connectivity not leased out or extended as service
- **50% SGST reimbursement** for new data centers/ data recovery centers on purchase of raw materials and equipment within AP for a period of 3 years
- **50% SGST reimbursement** on services provided by data center to registered units within AP

UTILITY SUPPORT

- Assistance of **50% of Internet connectivity charges for 3 years** up to maximum of **INR 1 crore**
- **24X7** reliable, quality power
- Projects to be **exempted from statutory power cuts**
- **24X7** water supply

R&D

- **Reimbursement on cost of filing patent**, for companies with India HQ in AP, up to a limit of:
 - INR 5 lakh per domestic patent awarded
 - INR 10 lakh per international patent awarded



AP Cloud Hub Policy 2018-20 – Objectives and Incentives

- Make Andhra Pradesh one of the most preferred destinations for Data Centers and AI Cloud Hubs
- Attract new investments worth at least \$5 billion in the sector by 2020
- Promote innovation in AI, R&D in the industry and ensure technology up-gradation
- Promote advanced testing facilities (e.g.: driverless vehicles, Drones, FinTech, Gov-Tech (Smart Cities))
- Act as an anchor and co-location host for SAARC countries and beyond
- Address air space regulation specifically for advanced drones testing associated with AI Cloud Hub policy
- Data privacy and protection

Employment Incentive: ₹50,000/ ₹1,00,000/ ₹1,50,000 depending on the nature of the project – consistent with IT policy

Land Subsidy ₹60,000/ ₹40,000 per employment generated for mega/ general projects

SGST reimbursement: 50%

- For new data centers on services provided within the state

Power subsidy : Subsidy of ₹2/ kVAh for 2 years from

Fiber connectivity: 50% for 3 years up to maximum of

AP Animation, VFX, Gaming and Comics Policy 2018-20

- Capture a larger share of outsourced international gaming, animation, media and entertainment work
- Attract new investments worth at least \$1 billion in the sector by 2020
- Promote growth of indigenous 'Digital Content' education and entertainment
- Animation Films/Game Development Center, Media Support/Marketing, Broadcasting and Information Services
- Incubation Center for startups and SMEs engaged in AVGC sector
- Skill Development Institute, Teacher's Training Academy – B.Ed, and Research Centre on the Science of Learning
- AP Animation, Gaming, & Digital Learning Hub in 40 acres in Vizag through PPP

Capital Subsidy on Hardware: 25% of capital expenditure for one time purchase of computers, networking and related

Production Reimbursement: Reimbursement of production cost of an Animation film or Gaming product, up to INR 5 lakhs

Employment Incentive: IT policy employment linked benefits for employment generated in IT/ITeS

Tax Reimbursement: 50% SGST reimbursement for low budget regional and national films, animation and gaming products (<INR 5 Cr production cost)

Power Subsidy: Subsidy of ₹2/ KVAh for 2 years from the start of commercial operations

AP Designated Technology Park – 2017-20 Policy

Incentives for Developers



Rent guarantee for unoccupied built-up IT space from the time the occupancy certificate is issued till project achieves specified occupancy



1 lakh ft² - 1,99,999 ft²

Earlier of: 18 months or 70% Occupancy



2 lakh ft² - 2,99,999 ft²

Earlier of: 24 months or 70% Occupancy



3 lakh ft² - 3,99,999 ft²

Earlier of: 30 months or 70% Occupancy



>4 lakh ft²

Earlier of: 36 months or 70% Occupancy

Incentives for IT Companies



Rent benefit passed on to such occupying IT Unit for the remaining period of rent guarantee



All other incentives as per AP IT Policy 2014-2020

AP Cyber Security – 2017-20 Policy

To create a **robust cyber ecosystem**, wherein the citizens transact online **securely** and take steps to **protect** their identity, privacy and finances online, the businesses conduct their operations without any disruption or damage and the Government ensures that its data and ICT systems are secure.

Chief Information Security Officer

AP CERT

Web Constables

Cyber Security Professionals

IIDT, Tirupati

To be promoted in all organizations, with overall responsibility for managing cybersecurity of all cyber-assets & protecting privacy of Personal Identification Information

Computer Emergency Response Team proposed to be established, as State-level coordination point for providing cyber security information & advice to AP IT community

Citizen participation through a cadre of Web Constables from citizenry who have specified qualifications and may volunteer to provide advocacy and reporting services

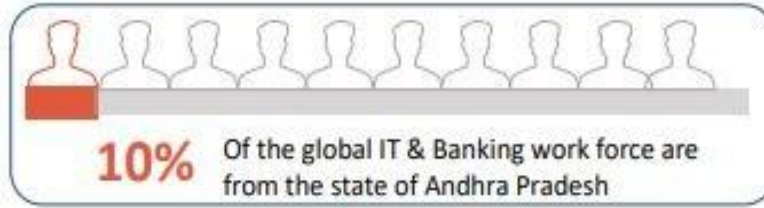
Considering the sophistication of cyber security threats, it further proposes to train 20,000 Cyber Security professionals over a five year period

Centre of excellence in secure software development shall be developed at the International Institute of Digital Technologies, Tirupati, with the motto "secure by design."

- AP IT Overview & Opportunities
- AP IT Policy Frameworks
- **Workforce & Skillset**
 - Emerging Workforce through Industry-Academia Collaboration
 - International Institute of Digital Technologies
 - FinTech Ecosystem in Andhra Pradesh

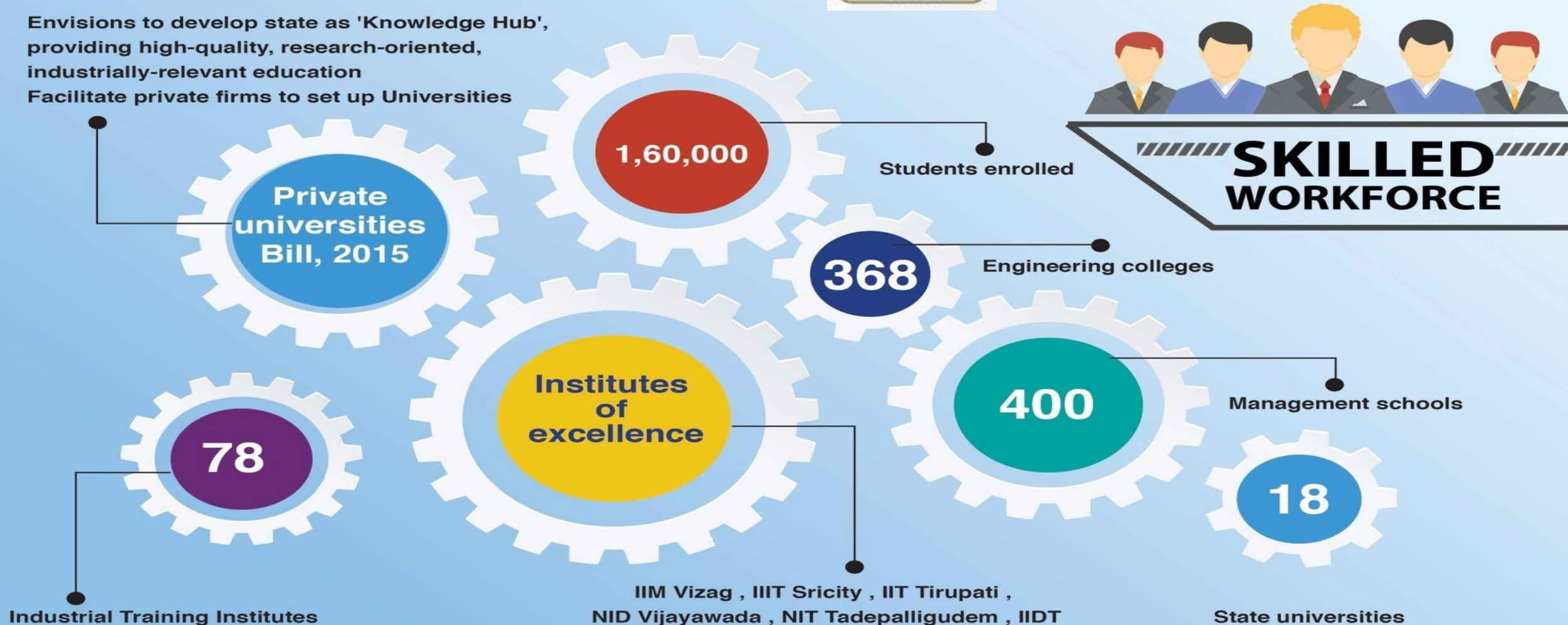
An Emerging Workforce driven by Schools of Excellence

TALENT POOL AVAILABILITY



368 Institutes Engineering	400 Institutes MBA	1,027 Institutes Degree/Diploma
160,000 Students	49,140 Students	344,551 Students

Envisions to develop state as 'Knowledge Hub', providing high-quality, research-oriented, industrially-relevant education
Facilitate private firms to set up Universities



Industry Academia Collaborations to build Next-gen Skill Set



Microsoft IT Academy



Cloud Computing Student and Faculty Training Certification



Technology Entrepreneurship Program



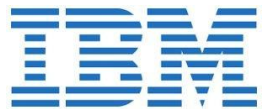
Academic Associate Membership (SAP Lumira and SAP HANA Cloud)



Competency Development Program - LabVIEW



Campus Connect Program



IBM BlueMix Cloud Platform



Design Thinking Workshops



Certification Program in Animation



Oracle Academy



AR & VR Training and Placement Certification



Branch of Zoho University
Zoho's in-house training program

Global Online Trading Certificate - Employment linked certification program for young graduates/working Professionals

IIDT – International Institute of Digital Technologies (1/2)



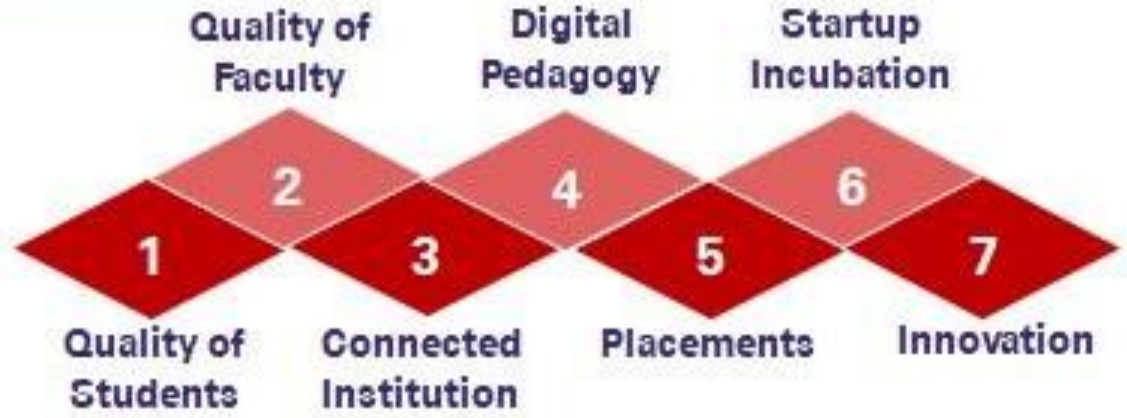
Leading digital technology school in the world

-  **Post Graduation in aspects relating to Industry 4.0**
-  **Center of Excellence, applied research and incubation**
-  **Industry consulting and relevant talent engine**

Advantage IIDT

- Global brand of highly skilled people
- Rapid growth of startups in space of Digital Technologies
- Preferred destination for industries
- Employment creation by bridging skill gap

7 PILLARS



4 HUBS





Highlights

Centres of Excellence

Global Experts

Entrepreneurial Hotbed

Collaboration with International Universities

Ultra Modern Labs

Captive Digital Initiatives

IIDT

Courses offered

As the new digital economy grows, there is an increasing gap in skill sets as traditional IT skills become obsolete.

Skills required for IT 2.0 technologies are in the below mentioned areas

Current Courses



Cyber Security



Data Analytics

Upcoming Courses



Augmented Reality /
Virtual Reality (AR/VR)



Programme in
Cloud Computing



Financial Technologies
(FinTech)



Programme in
Mobility



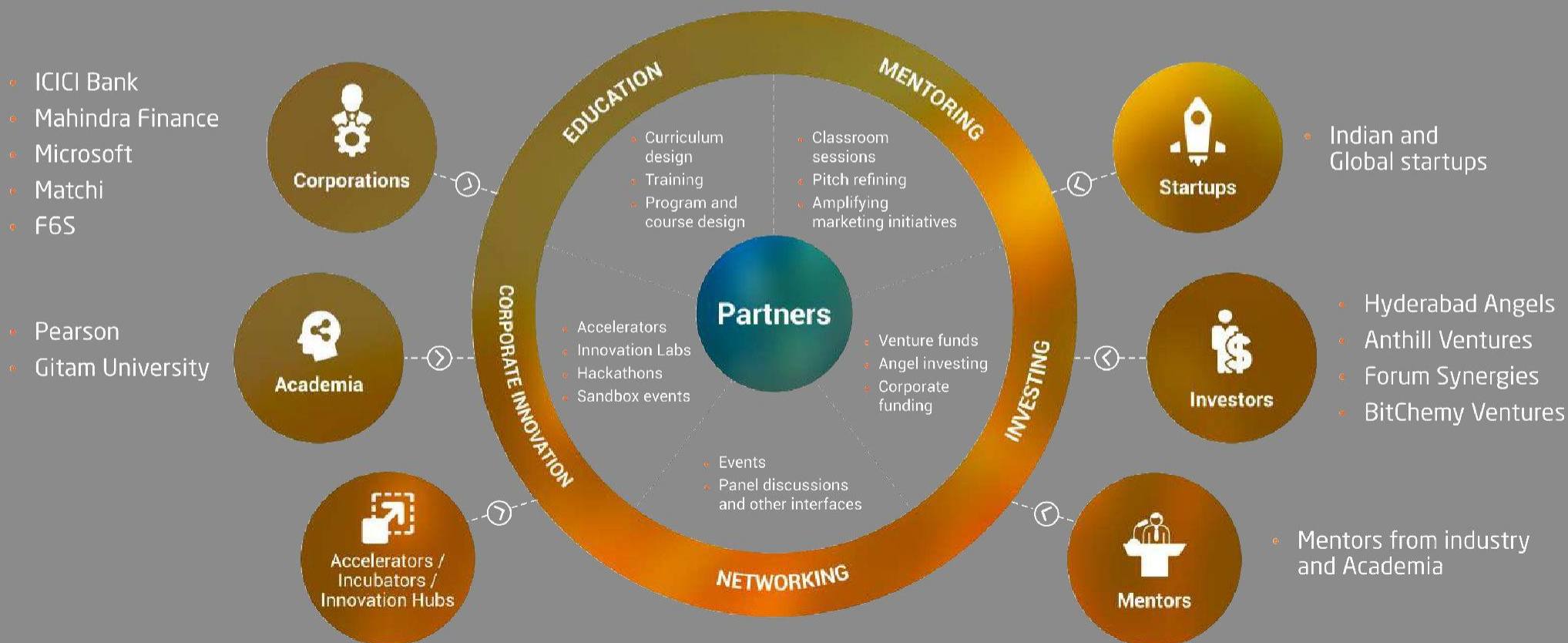
Internet of Things (IoT)



Programme in
Blockchain

FINTECH VALLEY ECOSYSTEM

Fintech Valley is a platform to bring pioneers and enablers of innovation including entrepreneurs, corporates, investors, and mentors together on a single platform. The platform aims to connect, educate, support and promote all the stakeholders in the eco-system.



DIGITAL ANDHRA PRADESH - CONNECT - AP FIBER

ANDHRA PRADESH - FIBER GRID – SNAPSHOT

What's possible with BharatNet

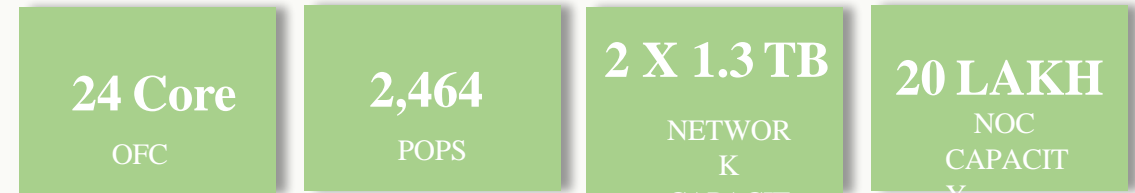
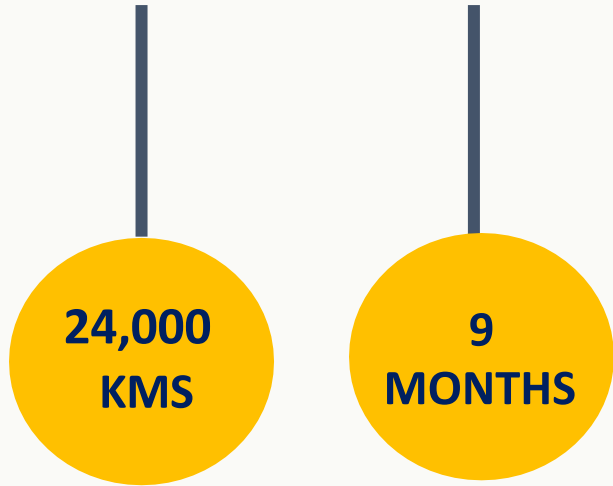
- Connectivity to 12920 Gram Panchayats
- Adds on reach to 100% Households

15% Rural / Remote Locations out of

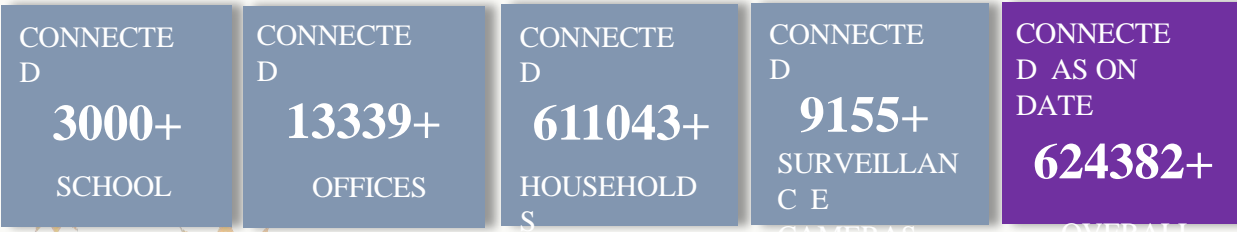
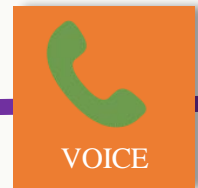
REACH

85%

within 5 KMS

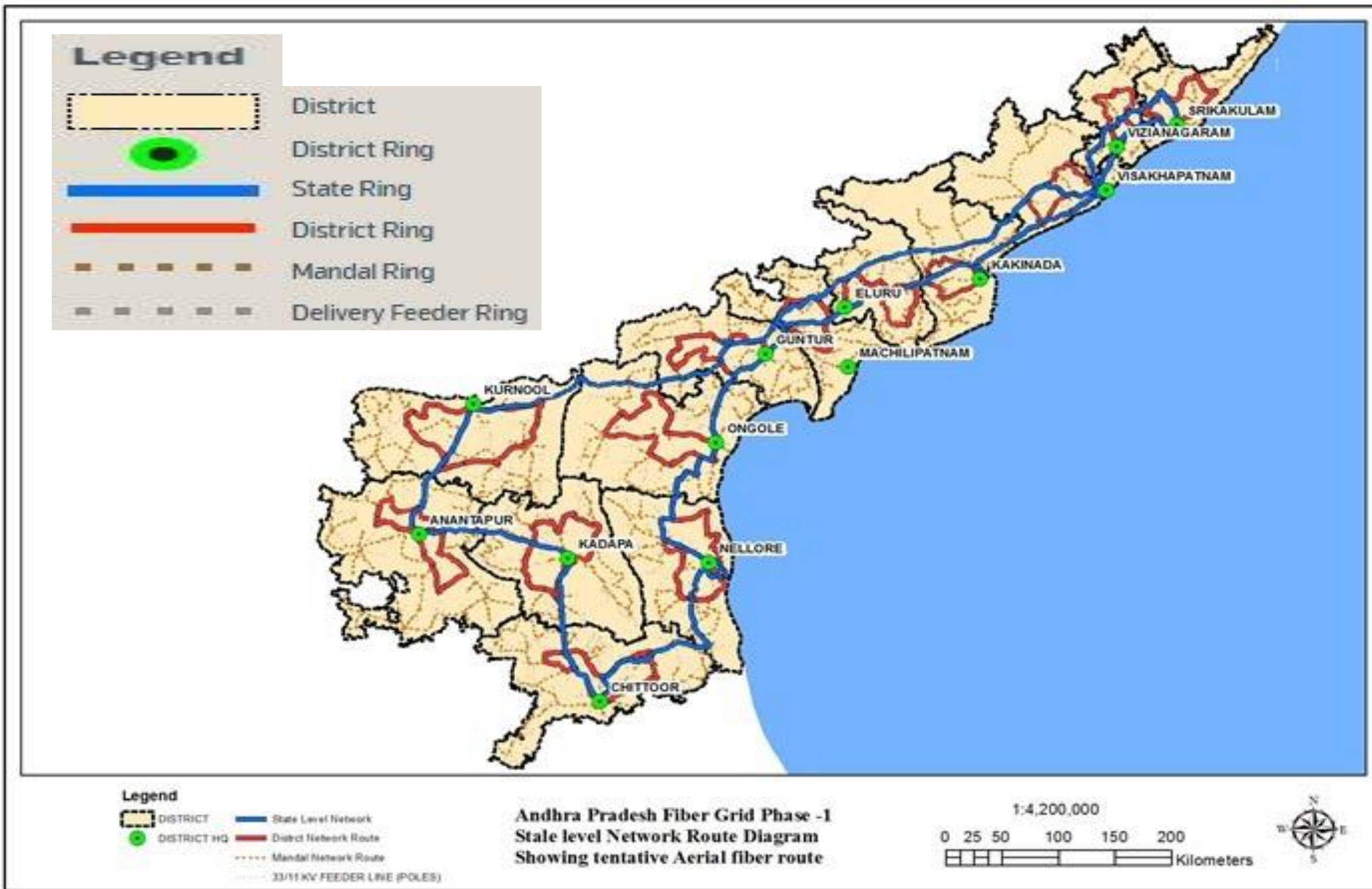


DWDM + IPMPLS + Y



250 Tv Channels, 15mbps , Free telephone at 14₹ (for Triple Play Service)





ANDHRA PRADESH – UNIQUENESS



First State in India to become an ISP, Telecom and IPTV service provider.

- ❖ ISP-B
- ❖ NLD
- ❖ UASL

Fastest project execution

- GIS Mapping : 3.75 Lakh electrical poles around 2500 substations one week time at nominal cost
- State of art NOC completed in 3 months at Visakhapatnam
- 23000Kms fiber grid in 9 months



Triple Play
Services

First of its kind to deliver triple play at an affordable price of Rs. 149/- only

85%

of population is covered through this network within AP.

Right choice of technology & architecture

- ❖ DWDM, IPMPLS and GPON Technology
- ❖ Efficiency, Scale, Security, QoS, Future Services, Interoperability, and Standardization with focus on long-term sustainability

- ❖ First in the world to try FSOC as a middlehaul for fiber network reliability and remote connections
- ❖ Sustainable business model which is a win-all scenario leveraging ecosystem of LCOs and MSOs
- ❖ Exclusive content corporation for content Generation



AP FIBER - STAKEHOLDERS

Service Providers



MSPs



Hospitals



Movie distributors/
beadcasters



Data centers



Telco Towers

Last mile Players



LMOs



Banks



Cinemas



Schools
& Colleges



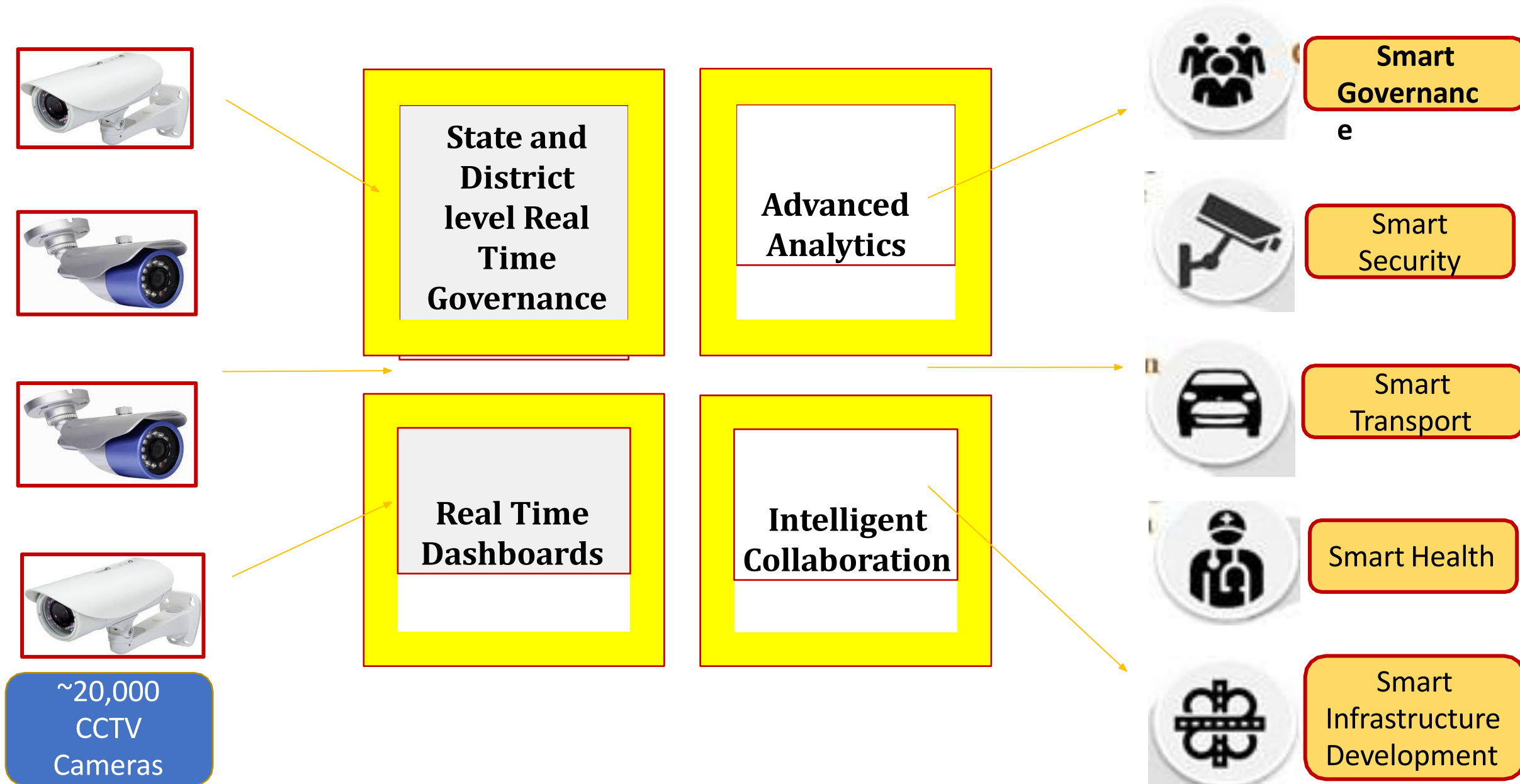
Public
Health
Centers



Government
Offices



Offices & business
establishments





Presentation Tools

- On-line /Off-line content delivery
- Remote video lecture by experts



Learning Management System

- Curriculum details
- Students Details
- Teachers Details
- Attendance

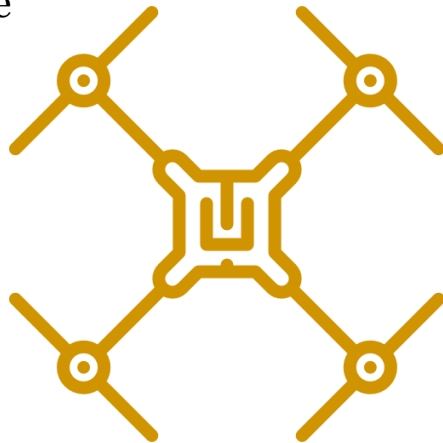
Analytics

- Report on the following;
- Class performance - School / Class / Student / Subject
 - Teacher performance – Class / Subject
 - Utilization of IT Resources

Assessment

- Class room Assessment

Key Focus Areas – AP Drone Services



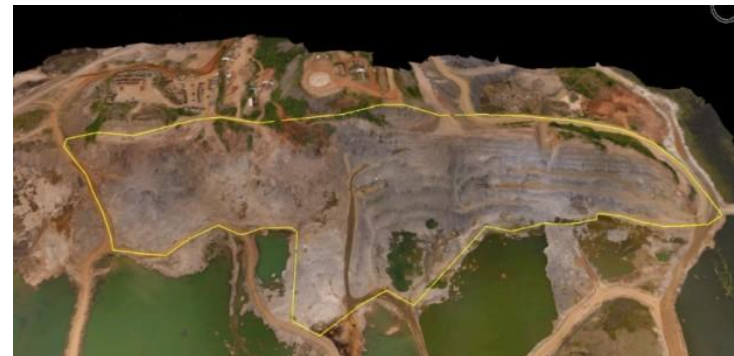
Tirumala



Ramco Mines



Projects Executed



Polavaram



Nandyala Town

Project Scope: Establishing Wi-Fi network across the state

Timeline: Public APs to be setup by Dec 2018

Google signed an agreement with APSFL as monetization partner for Public Wi-Fi

Urban Wi-Fi

- 4,000 Free Wi-Fi Access Points in Urban and Municipal Areas
- Monetization to be done via advertisements through Google

Rural Wi-Fi

- 27,093 locations identified for Free Wi-Fi in GPs based on heat map
- Monetization to be done via advertisements through Google



Vision Statement:

“To create a knowledge based economy and be the content-hub which could address all the relevant needs of the citizens of Andhra Pradesh by 2023 and set a benchmark for the country.”

Mission Statement:

“To **deliver relevant and engaging content** to end users at affordable prices, create a self- sustaining and process driven business operations team by 2020, in alliance with the Government of AP and Private Sector, thereby realizing the Vision of Digital AP.”

Web Site
Creation and
Maintenance

Creating
Content

Social Media
Channel
Management

APCC

Beautification
of Existing
Content

Project
Implementatio
n

Developing
Mobile
Applications

Vision:

To create a robust telecom tower infrastructure for connecting people across the nation's geography digitally.

AP Towers Limited formed JV with M/s Pace Power System Pvt Ltd



Objectives:

- To set up, promote, erect, takeover, manage, operate, lease out, and take on lease **tower infrastructure of all kinds** in the State of Andhra Pradesh and also in other States.
- To promote telecommunication and other related infrastructure such as **smart towers, mobile towers, electric towers etc.**, in the State of A.P
- To promote development of **smart telecom infrastructure.**

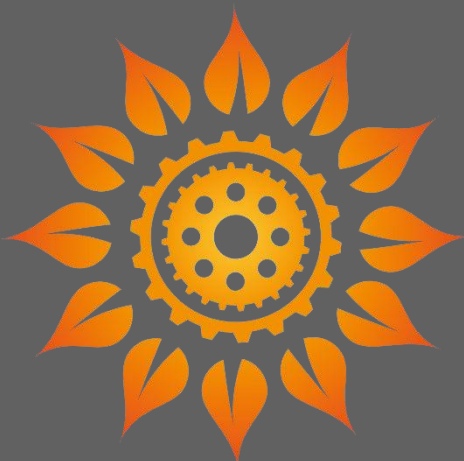
Responsibility	AP Towers	JV Partner
Capital Infusion		Yes
Marketing Expertise		Yes
Technical and Operational Expertise		Yes
Debt Raising		Yes
Space in Government land/Building for Towers on nominal base rent with a first right of refusal	Yes	
Facilitating Government Permissions	Yes	
Optic Fiber Connectivity to Tower Locations on priority (as required) at competitive pricing.	Yes	



ANDHRA PRADESH
India's Sunrise State



THANK YOU



ANDHRA PRADESH
India's Sunrise State

BHAVNA SAXENA IPS,
Special Commissioner,
Andhra Pradesh Economic Development Board,
1 Ashoka Road, Andhra Pradesh Bhavan,
New Delhi-110001.

Email:
bhavna.saxena@apedb.co.in

