

# TEJAS NETWORKS

**INDIAN PRODUCT COMPANY, LEADERS IN OPTICAL NETWORKING MARKET**

Presented by: Prashanth G, Blr VP Forum, June 16, 2019

## DISCLOSURE

- This is not a recommendation for Buy or Sell.
  - The material is just for education purpose
  - I hold currently Tejas Networks in my portfolio and it constitutes up to 3%
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# TITLE AND CONTENT LAYOUT WITH LIST

- Durable Competitive Advantage
  - What is Tejas Networks?
    - Tejas Networks Background
    - Details of Network Equipment
  - What is company core offering
  - What is the business model?
  - Does Tejas Networks has competitive Moat?
  - How company has performed so far?
  - Does the company pass the Durable competitive advantage checklist?
  - What does the future hold for the company?
  - Underlying risks
  - Q&A
-



## **DURABLE COMPETITIVE ADVANTAGE**

The key to investing is determining the competitive advantage of any given company and, above all, the durability of that advantage. The products or services that have wide, sustainable moats around them are the ones that deliver rewards to investors.. **Buffet**

As per Munger, there are 2 key drivers of value for any business –

1. Business volume growth over the long term; and
2. Profit per unit of business volume over the long term

**Does Tejas Networks which is in B2B space qualify?**

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# MY RATIONALE FOR PICKING TEJAS NETWORKS

Only Pure Play Product Company in Telecom Space from India

My own exposure to telecom industry in my earlier part of my career

Excellent management with passion towards building long term business in telecom space

Stock price crashed from high of 438 to 160!

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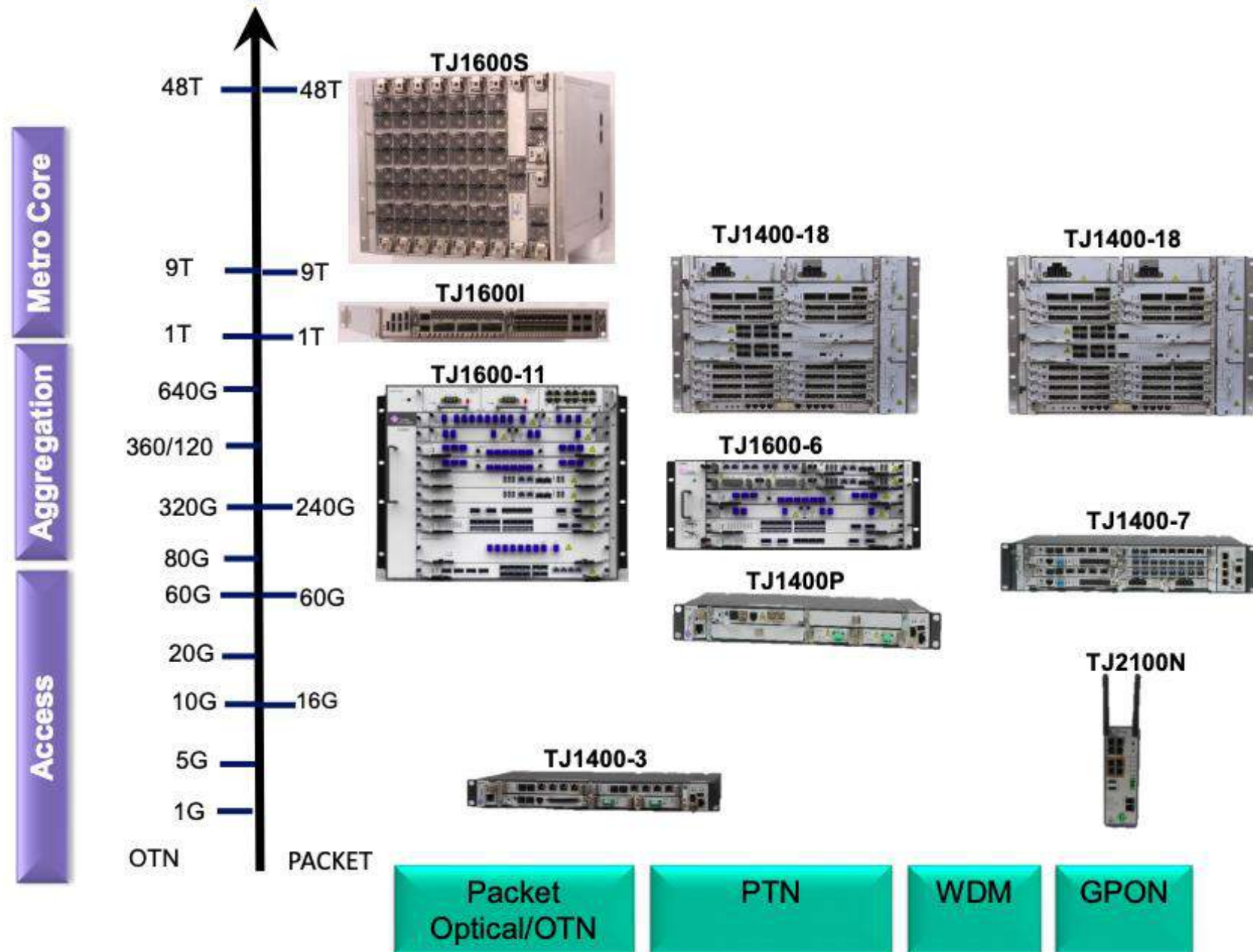
# TEJAS NETWORKS

- Founded in year 2000 in Bangalore; Offices in 10+ countries; 750+ employees
  - ISO 9001 Certified
  - Design and Manufacturer of optical & data networking equipment that is used by telecom service providers and utility companies
  - Public Limited Company with the shares traded on BSE (Bombay Stock Exchange) and NSE (National Stock Exchange Of India)
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What does Tejas do & what do  
they bring to market?

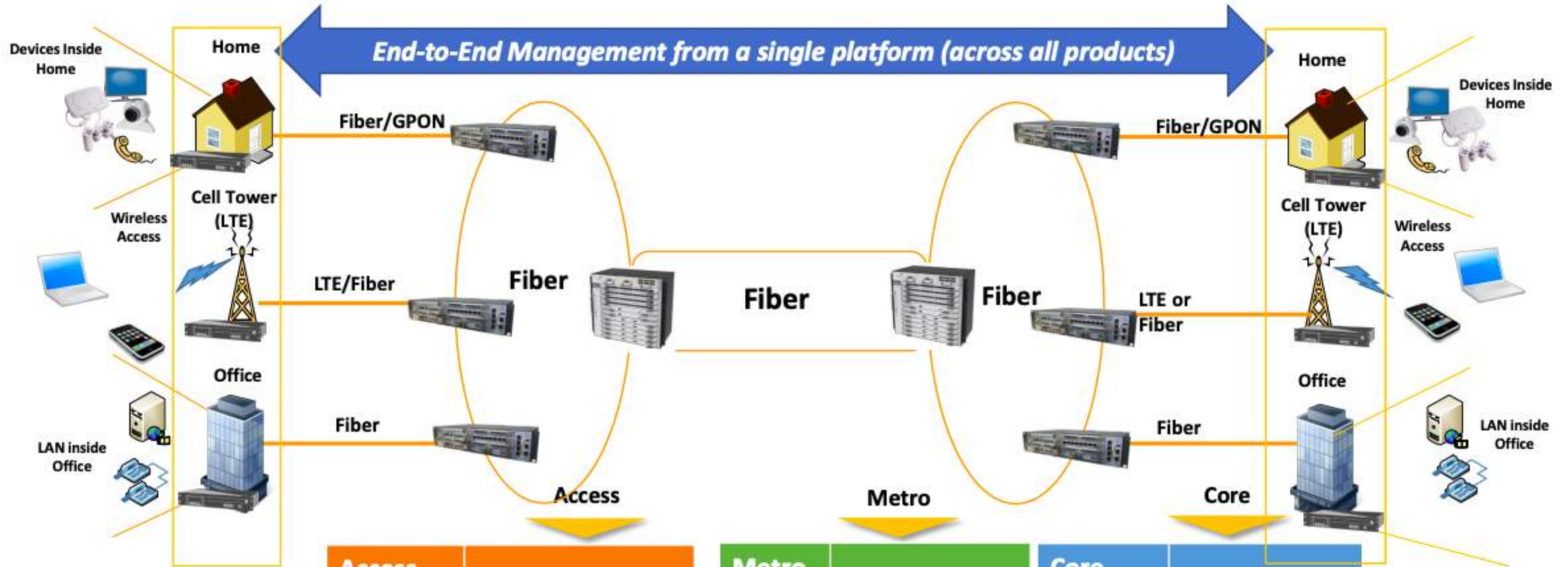


# Comprehensive Optical Product Portfolio





# PRODUCT FOCUS – ACCESS TO CORE



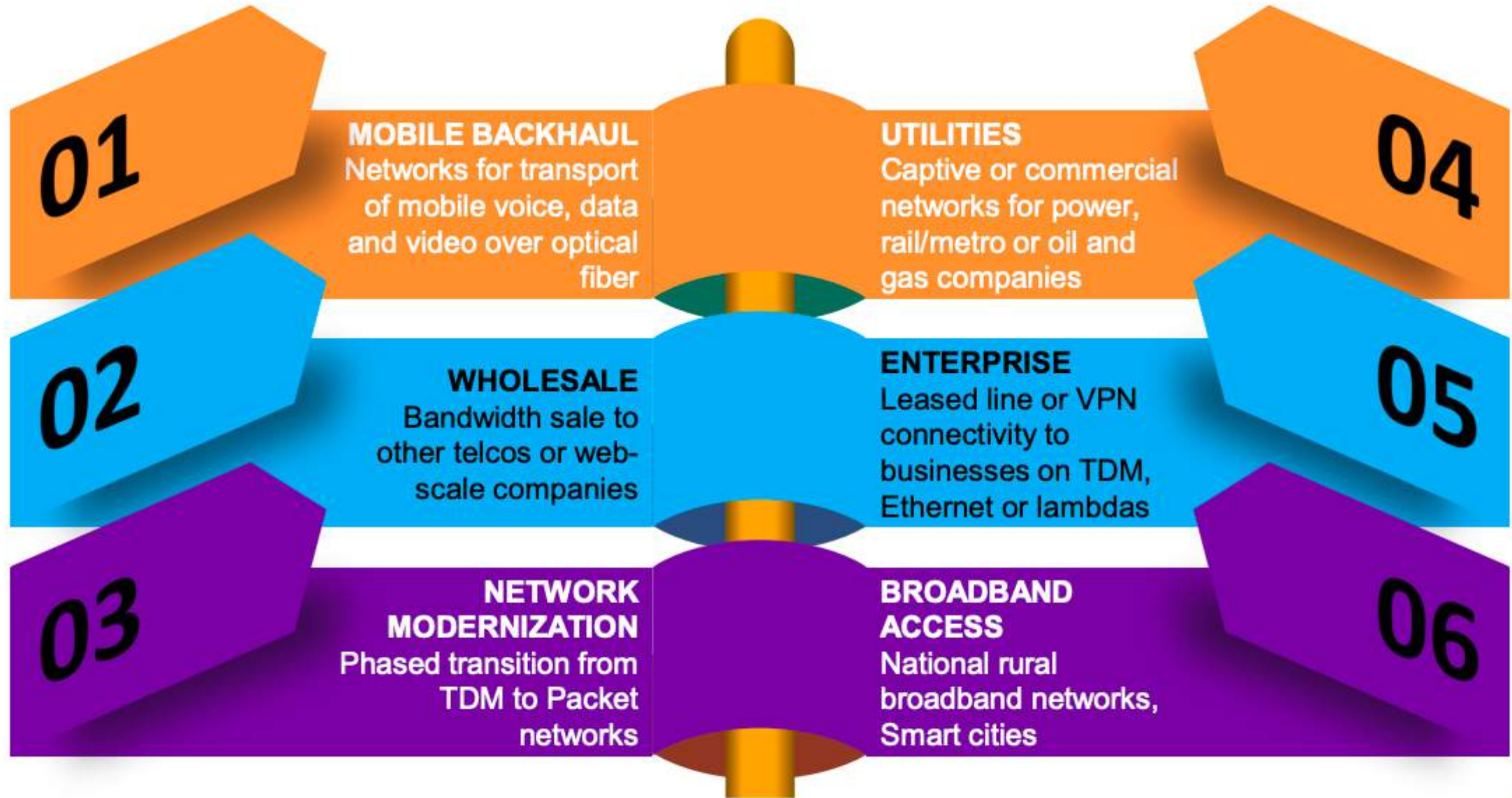
Access	
Speeds	Nx10G => 100G
Tech	PTN, SDH, GPON, LTE
Products	TJ1400, TJ1600-2

Metro	
Speeds	100G => Nx100G
Tech	DWDM, OTN, PTN
Products	TJ1400-7, TJ1600

Core	
Speeds	Nx100G => 400G
Tech	ROADM, OTN, SDN
Products	TJ1600, TJ1400-18

**COMMUNICATE  
RELIABLY  
at LOWEST COST**

# NETWORK APPLICATIONS WHERE TEJAS IS STRONG





## **WHAT ARE THE KEY BENEFITS CUSTOMERS GET?**

**Software defined Hardware:** Programmable silicon eases feature upgrades, quicker incorporation of new standards and protocols

**Future Ready Products** Support multiple technology generations from same platform (2G/3G → 4G/5G)

**Ultra Converged Broadband Access/Edge** Flexibility to offer different services on fiber/copper/wireless using relevant technologies

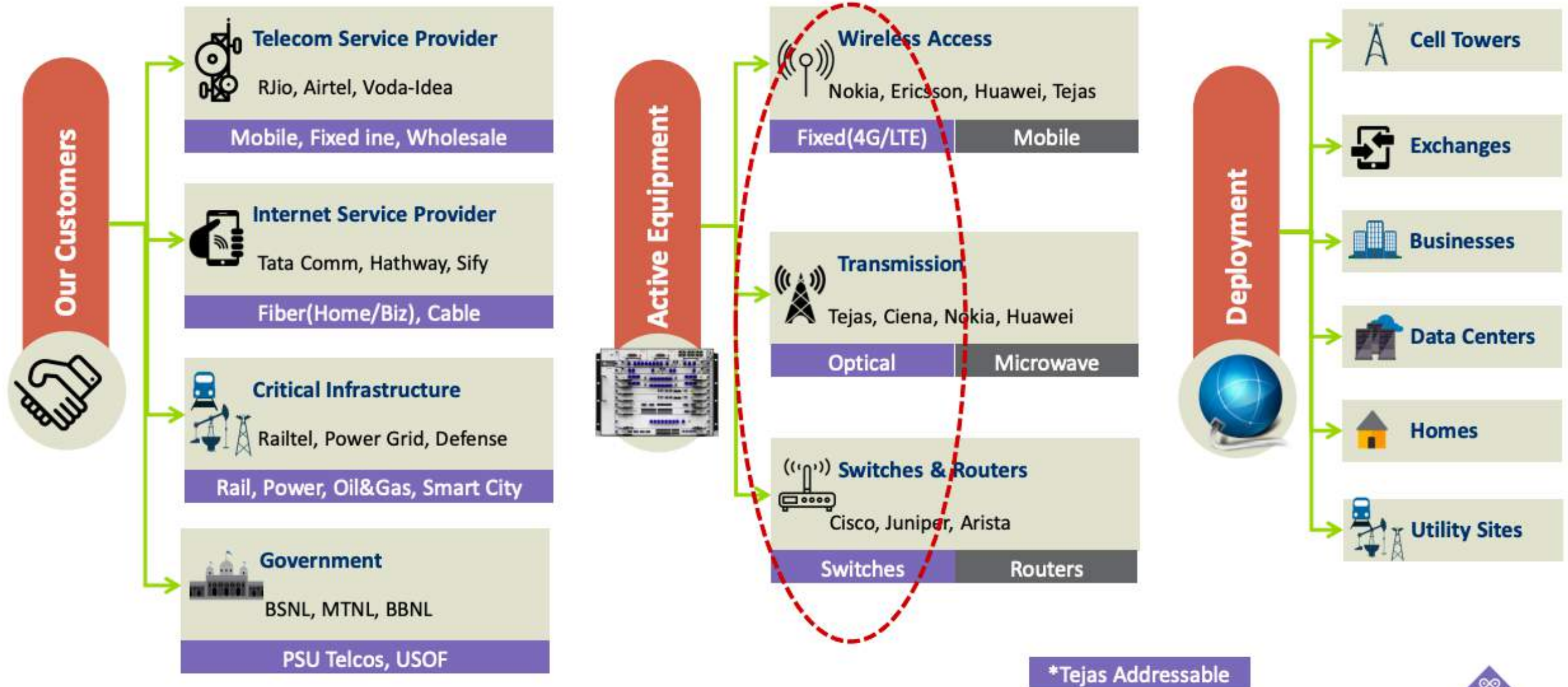
**Innovative Business Model** Cost-efficient India-based R&D and low operating costs and asset-light manufacturing delivers superior financial performance

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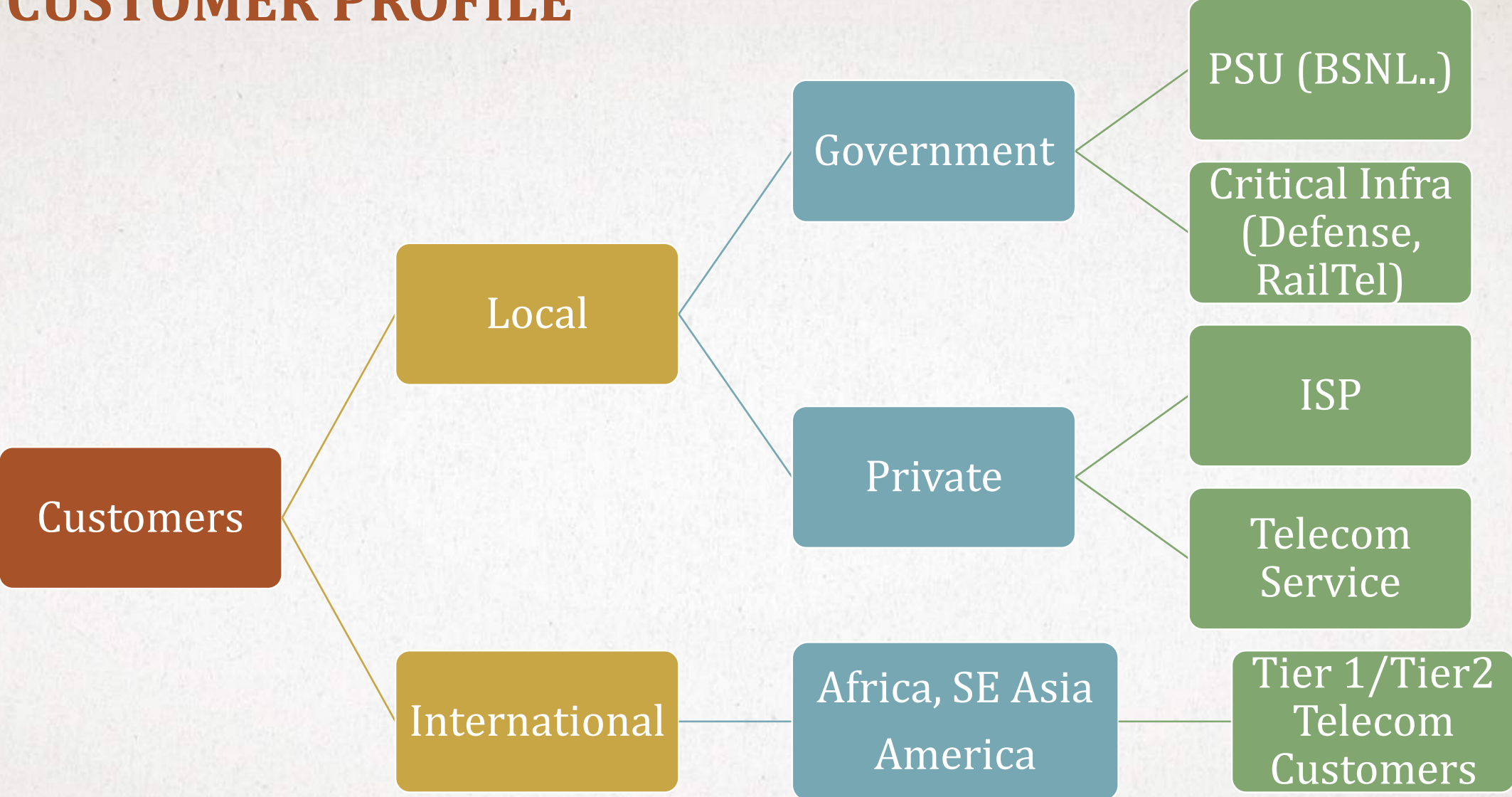
Who/Where are Tejas customers  
& how do they acquire?



# TELECOM ECOSYSTEM – TEJAS ADDRESSABLE MARKET



# CUSTOMER PROFILE





# CUSTOMER ACQUISITION STRATEGY

Foot in the door: Start adding small accounts of 1Cr and grow as you build relations

Earlier OEM's used to sell, currently company is approaching with direct Sales

Investing heavily in International Sales to grow the accounts

Acquiring those customers who are not willing to work with Chinese vendors

Become a one stop solution by delivering the future proof ready solutions

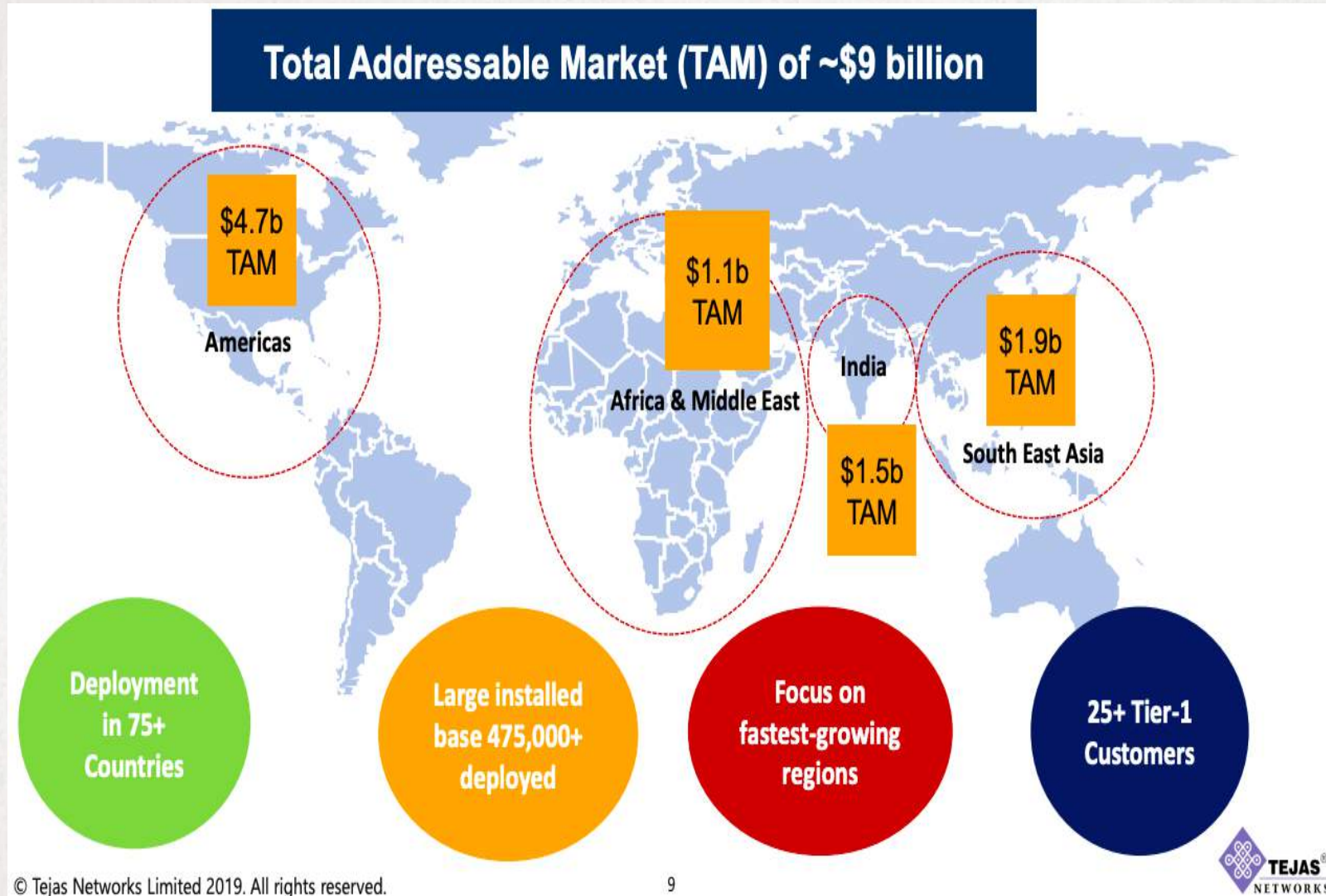
In India, Tejas Networks commands more than 36% market share for Optical aggregator equipment.

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Is there market for the Tejas to  
grow?



# HOW BIG/(GROWTH) IS THE MARKET?

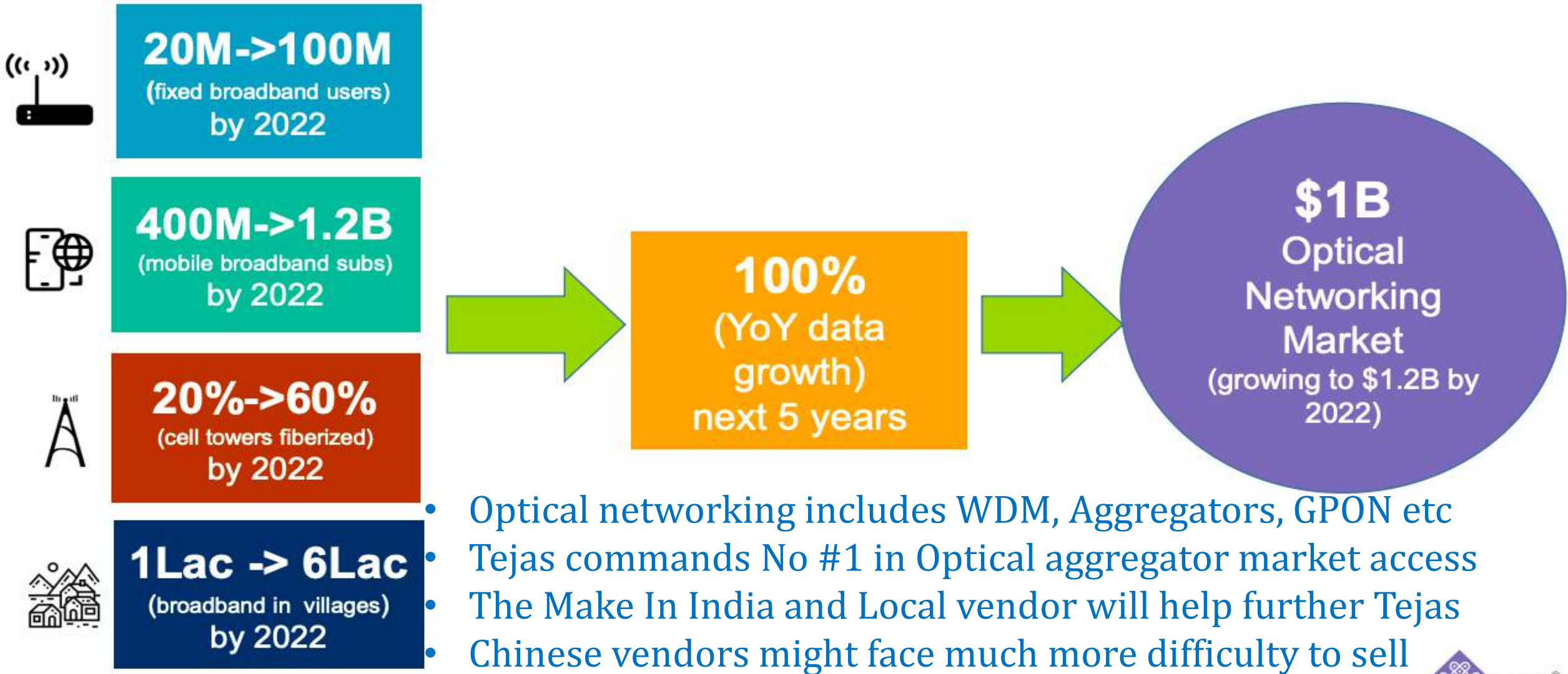


What is driving?

5G –  
Cloud & Data  
Centers  
Mobile Front Hall/  
Fixed Wireless

IOT-  
SDN/Virtualization  
FTTH/FTTX  
(GPON)  
Fiberization

# India: Data and Broadband Growth to Continue

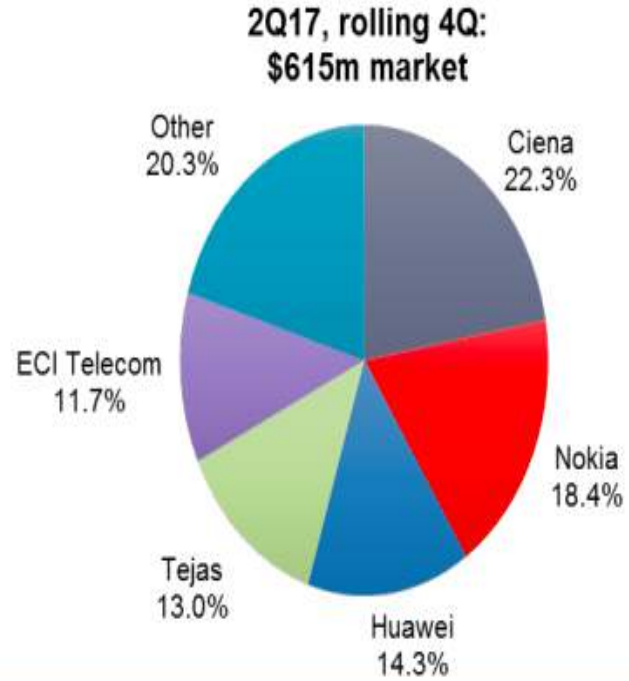




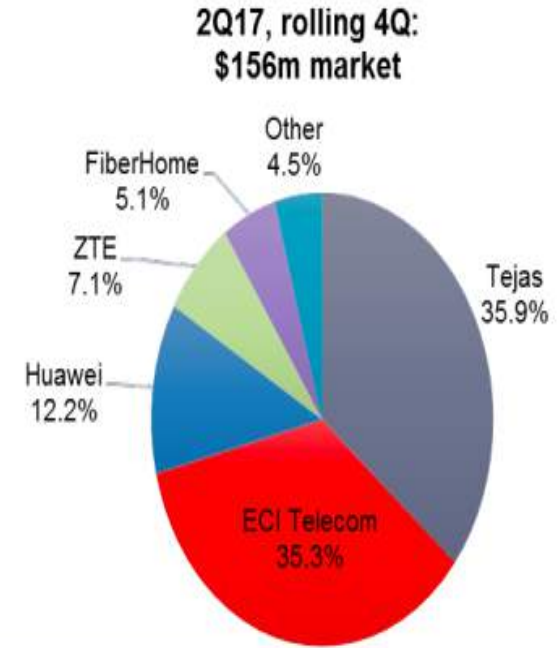
## **MEDIUM TERM GROWTH STRATEGY**

- 1. Leverage incumbency in India** to benefit from pent-up demand for broadband and data; increase depth in India-private accounts so as to reduce dependence on lumpy, India-Govt business (Continue focus on India Govt but expand to Pvt, Govt Margins are quite high, but issue with payments)
  - 2. Increase international sales** in Africa, S. East Asia and America, to reach 50% of overall revenues (India Govt – 55%, India Pvt -24%, Internation-21%. But international growing at 70%)
  - 3. Continue to invest in R&D** to maintain our product differentiation & expand our portfolio to increase our addressable market (R&D Forms 21% of CAGR and 13% of the Sales)
  - 4. Continue to deliver strong financial performance-** maintain profitable growth and improve working capital efficiency (Depends on Indian Government projects)
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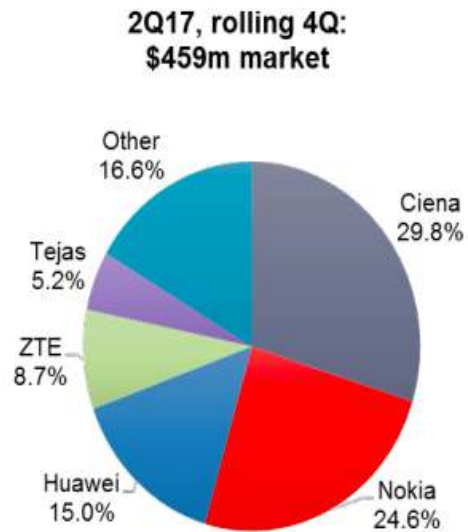
**Figure 2: India ON total – rolling 4Q, 2Q17**



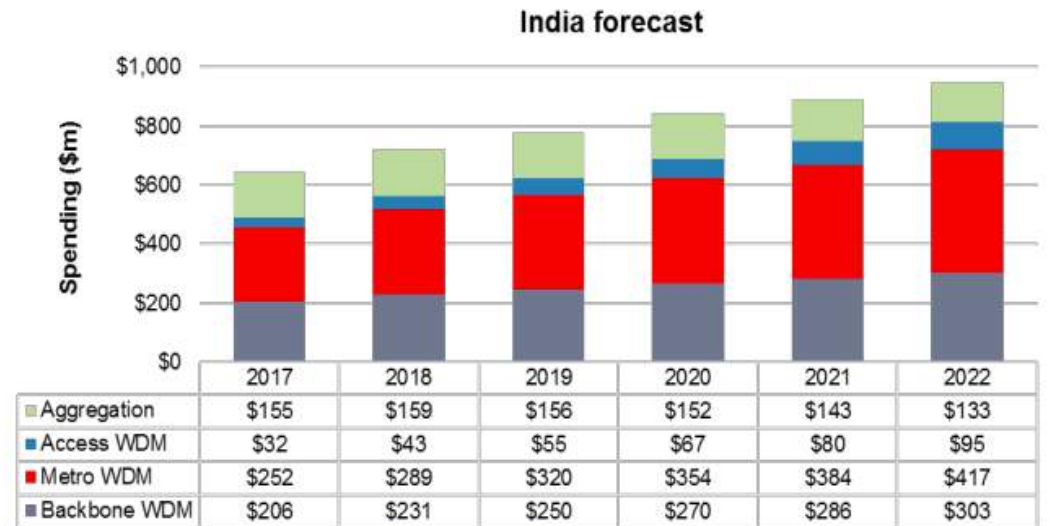
**Figure 3: India aggregation subtotal – rolling 4Q, 2Q17**



**Figure 4: India WDM subtotal – rolling 4Q, 2Q17**



**Figure 8: India ON forecast, 2017–22**





How to grow & capture market  
share?

# BUSINESS APPROACH: DIFFERENTIATION, R&D & LOW COST

**Programmable software-defined hardware™** architecture gives us a competitive edge • Ultra converged access/edge, Multi-Terabit Optical switching, Multi-generation technology

• **Differentiated features** for high potential network application wins • Mobile Backhaul/Fronthaul, Wholesale Bandwidth, Network Modernization, Critical Infrastructure, Enterprise Services, Broadband Access

• **Strong local technology team**, influencing/tracking new standards, driving innovation and aligning product roadmap with market needs (349 Patents, 54% staff in R&D, 39% from Premier Institutes, Average industry experience 24yrs, very low attrition, Very good reviews in Glassdoor). 4 times benefits for same R&D cost compared to western country companies



# TEJAS PRODUCTS MATCH BEST IN INDUSTRY

## Tejas Networks — TJ1400 Ultra-converged Broadband Product Family - LightReading Finalist

In February this year Tejas unveiled its TJ1400 broadband access/edge product family that is designed to gives network operators a quick and easy way to launch broadband access services over any medium, from fiber (FTTx) to copper to wireless.

The system integrates wireless -- an LTE eNodeB, upgradable to 5G – with a GPON OLT and active

2018-2019

5



Best Equipment Supply Partner by Gol



Aegis Graham Bell award in "Digital India Initiative"



"Best Exporter" award in Gold Category by FKCCI

FT1000 high-growth list for Asia-Pacific



Finalist at Broadband World Forum Awards, Germany



Finalist at Leading Lights Award, USA

4

2016-2017

300+ patents filed



IESA Most Innovative Product Award in 2016

President of India award for successful commercialization of indigenous innovation in 2016



National Intellectual Property Award by Minister of Commerce and Industry in 2017

3

2012-2015



CSIR Diamond Jubilee award from PM in 2012

200+ patents filed



2

2009-2012

100+ patents filed

Technology and Innovation awards from

- NASSCOM
- Economic Times
- Aegis Graham Bell
- TCOE India



2000-2008

1



CSIR Diamond Jubilee award from PM in 2006

17 patents filed

Deloitte

Global Deloitte Technology Fast-50

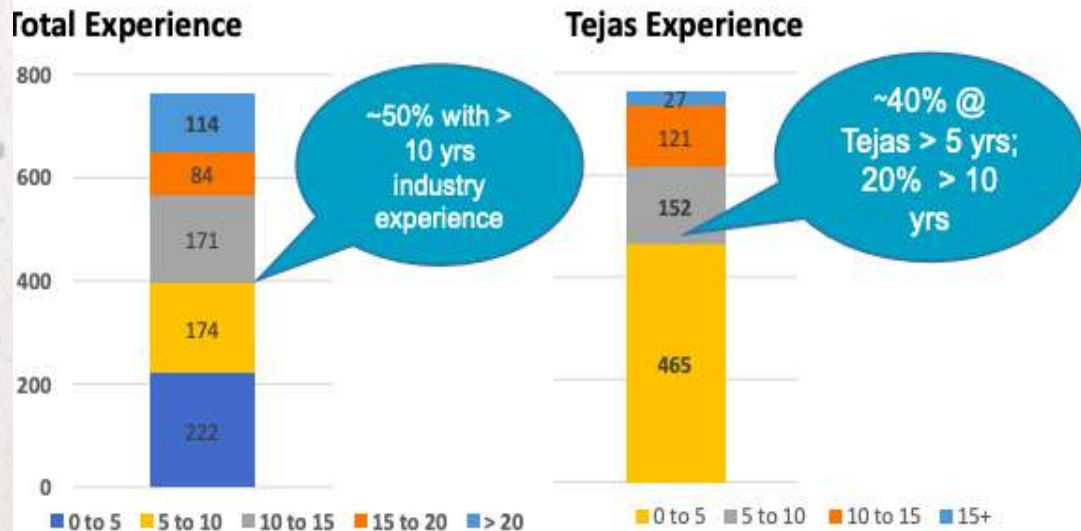


Red Herring Top-100 Asia

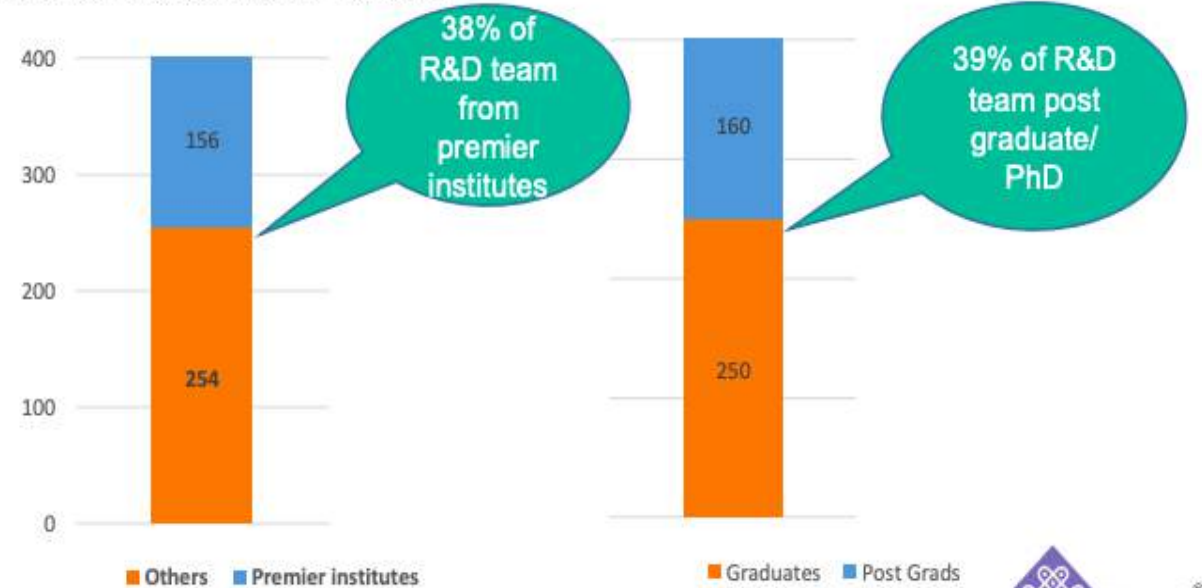
**Highly experienced Senior Sales Team**  
 Average industry experience: 22.5 years  
 Average experience at Tejas: 8.7 years

**Highly experienced Senior R&D Team**  
 Average industry experience: 24 years  
 Average experience at Tejas: 11.7 years

**Retaining Top Talent in a Competitive Industry**



**World-class R&D Team**

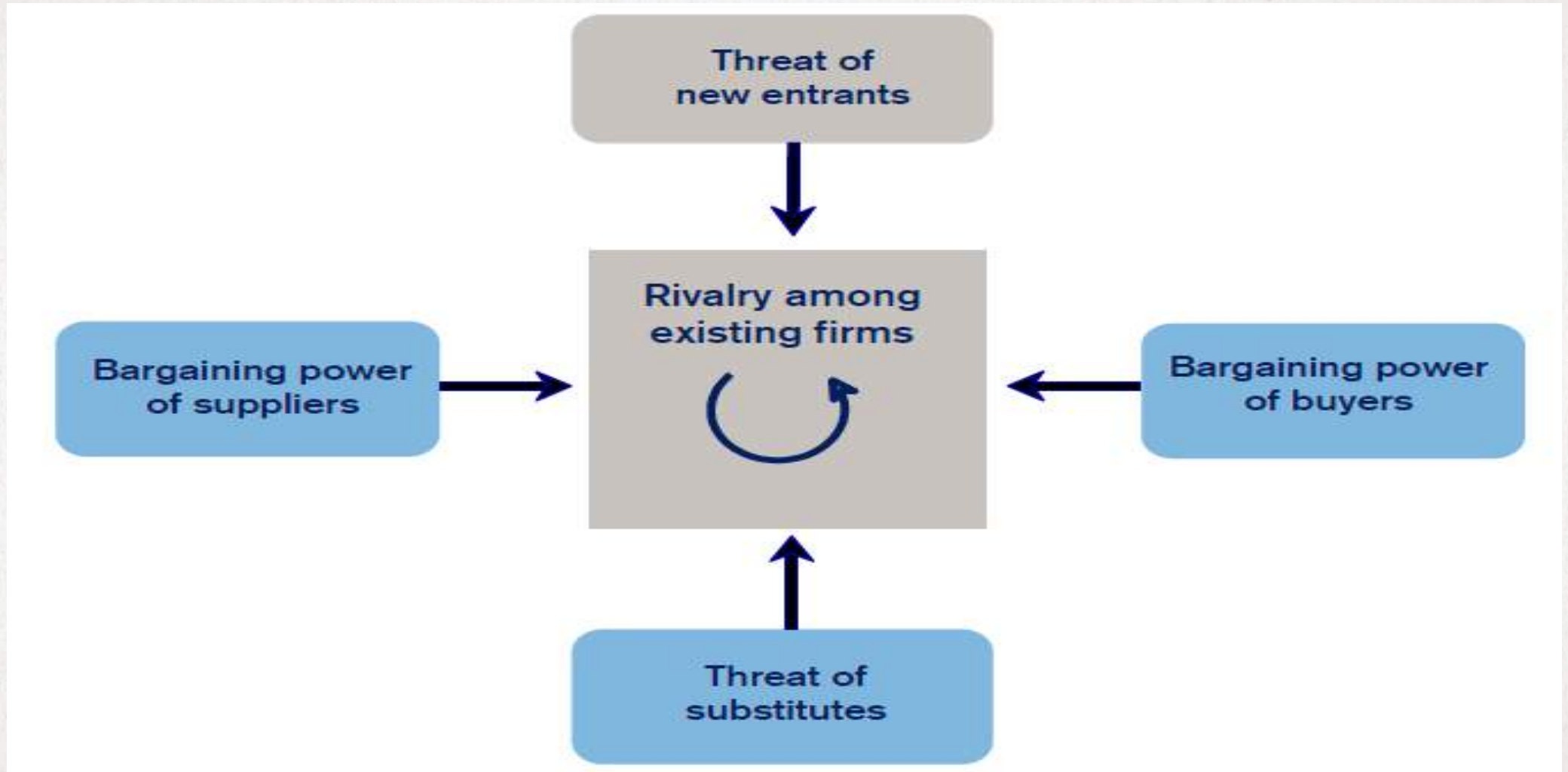




## **SUMMARY**

- Tejas Networks is a quality, Product focused company in a core telecom space
  - Addressable market size is quite large and Tejas networks market share is very small
  - Indian optical market will continue to grow and Tejas will be lead beneficiary
  - Tejas has some of the best R&D team and is quite prudent in finance
  - Company is very focused, has come through hard times and is 1<sup>st</sup> company to build a proven technology product from India at quality as best in industry with cost competitiveness
-

# GETTING BACK TO MOAT? PORTER'S !





# RIVALRY AMONG EXISTING FIRMS



**HIGH**

Rivalry among existing firms may manifest itself in a number of ways- price competition, new products, increased levels of customer service, warranties and guarantees, advertising, better networks of wholesale distributors, and so on

- Extremely competitive with rest of players with billion dollar businesses.
- Chinese companies are present by vendors are backing off
- Tejas has cost advantage compared biggies and goes after Tier1 customers in developing markets and Tier2/3 customers in developed markets
- Needs to increase the marketing and sales to get new customers
- Initial acquisition at low margin and build margins over longer term

# THREAT OF NEW ENTRANTS



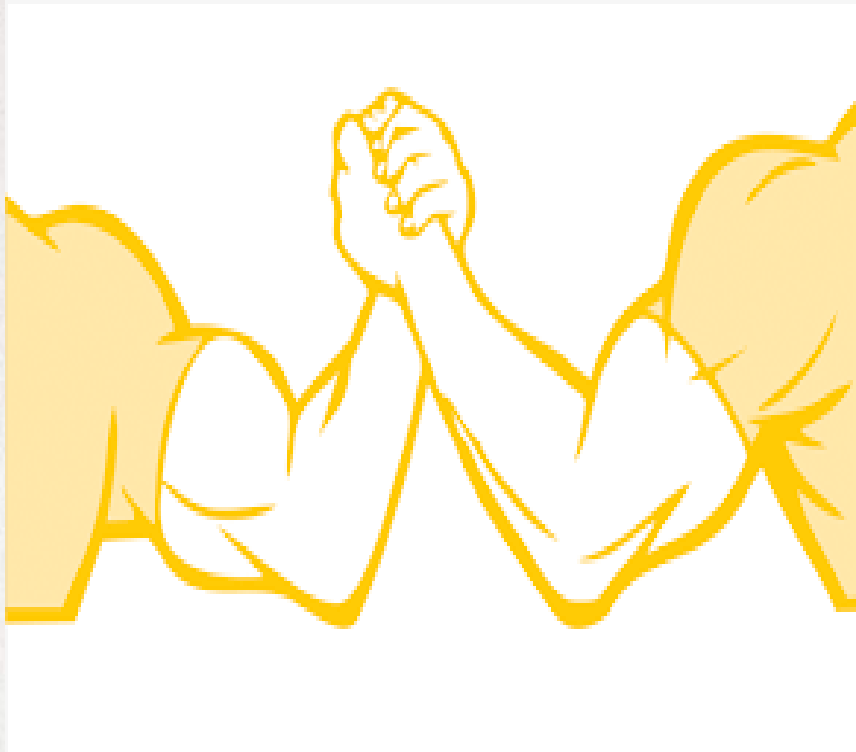
Low

- New players entry is difficult as market is quite matured
- New technologies can disrupt the market
- Tejas invests heavily in the R&D to keep ahead of the market

**Threat of new entrants** refers to the **threat new** competitors pose to existing competitors in an industry. A profitable industry will attract more competitors looking to achieve profits.



# BARGAINING POWER OF SUPPLIERS



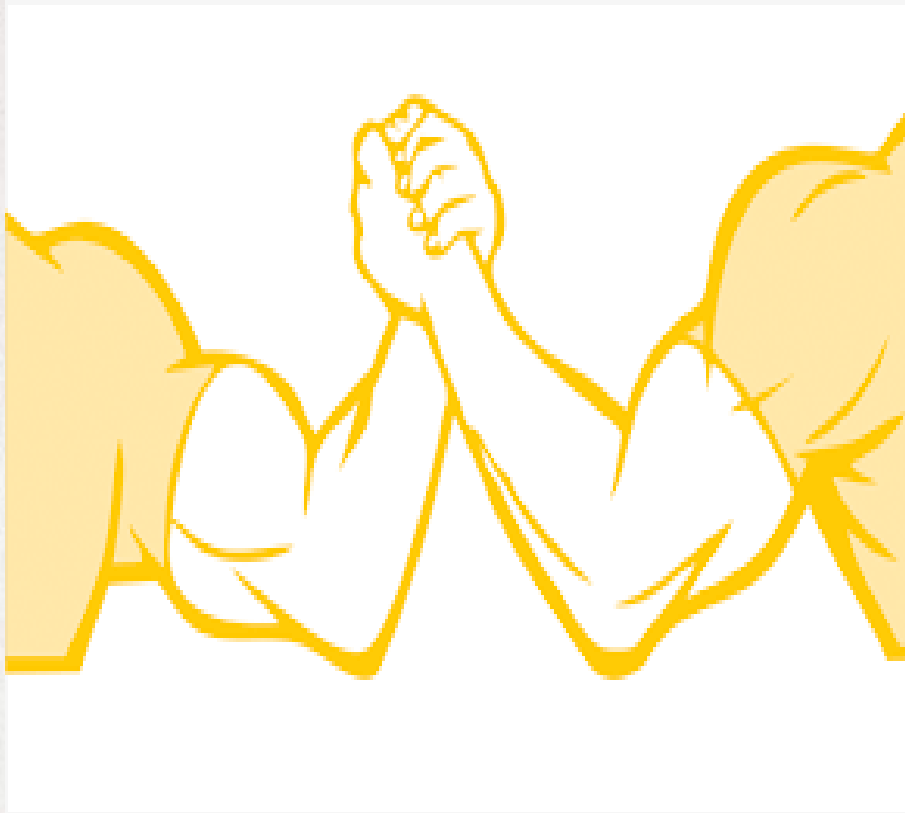
## Low to Medium

The presence of powerful **suppliers** reduces the profit potential in an industry.

**Suppliers** increase competition within an industry by threatening to raise prices or reduce the quality of goods and services.

- Tejas outsources the manufacturing to Sanmina and Sun Fibre Optics
- The suppliers have enough capacity and do not cause any constraint
- Cost of manufacturing is not going to raise and affect margins
- Silicon/chipset is bought from established semiconductor companies (Intel, XiLinx, Broadcom etc) and is quite well controlled with no single company dependency

# BARGAINING POWER OF CUSTOMERS



**High**

**Buyers Bargaining power** refers to the pressure consumers can exert on businesses to get them to provide higher quality products, better **customer** service, and lower prices

- Significant bargain from Indian pvt players. Can easily squeeze the margins
- Govt orders tends to be lumpy and can bargain on easy payment terms
- International customers will bargain for quality of western competitors and price of Chinese vendors
- Tejas strategy is win at low margins and slowly increase margins over the course of engagement



# THREAT OF SUBSTITUTES



Low

- Optical backbone is becoming default standard for the telecom
- Industry is moving from the circuit switched to packet
- Increased fiberization, FTTX will be key

**Threat of substitutes** (from Porter's five forces analysis) occurs when companies within one industry are forced to compete with industries producing **substitute** products or services.

## SUMMARY

- Tejas has medium competitive advantages and this comes from having ability to develop high technology product at cost competitive using talented Indian R&D
  - It is a mature market with competitors who are 10times bigger with established market share and larger portfolio products
  - Tejas has a hold on Indian market and Indian Optical market is fastest growing
  - Customers bargain hard and can affect margins.
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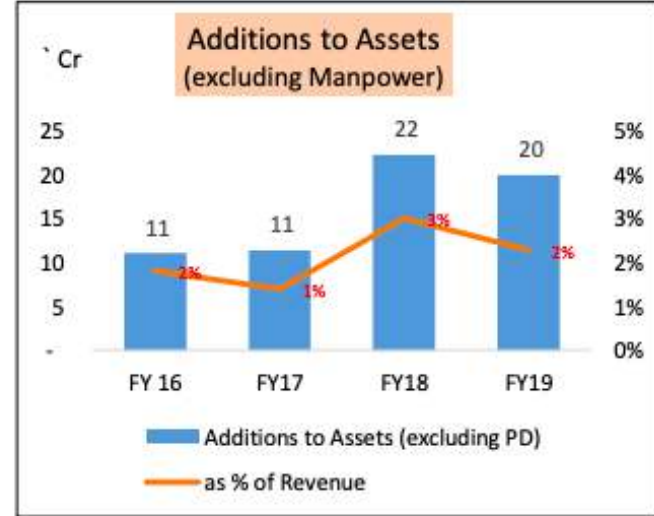
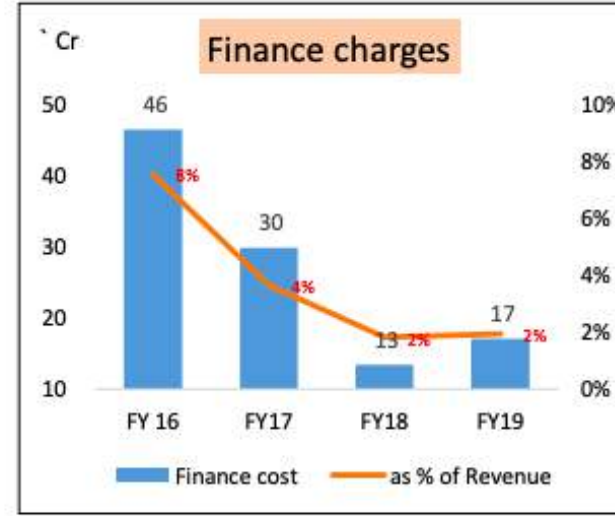
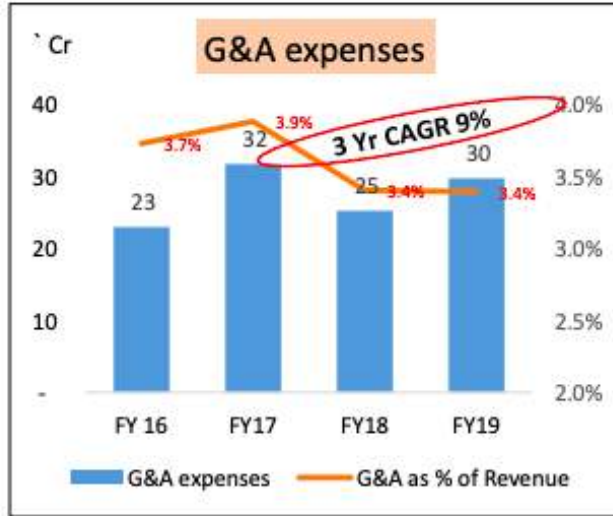
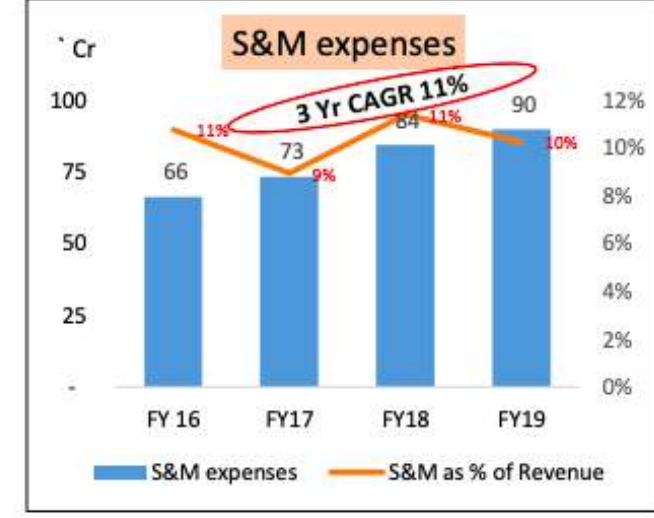
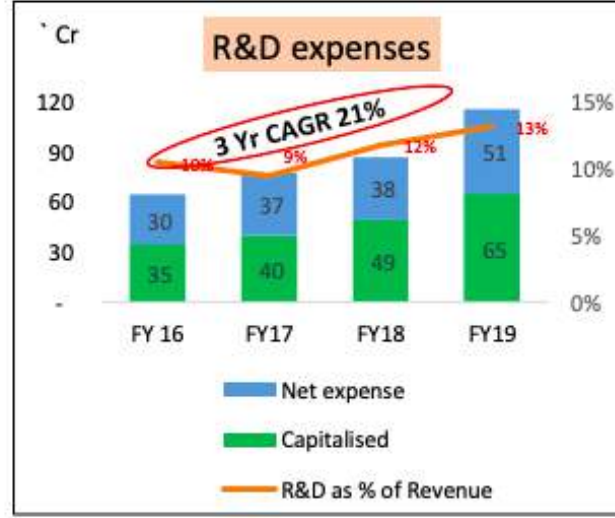
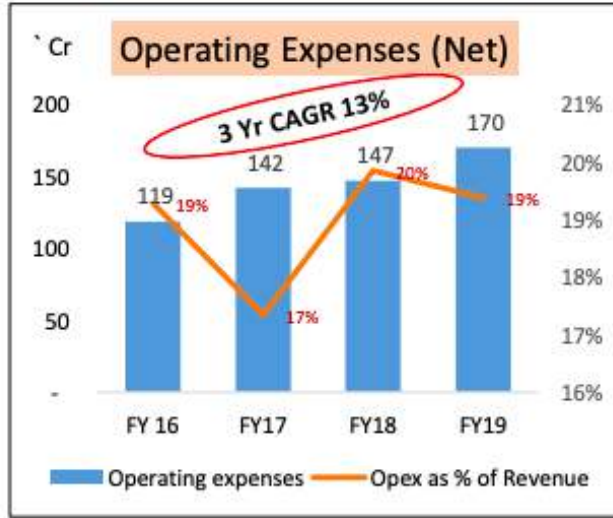
How is the company doing ?

	Mar 2012	Mar 2013	Mar 2014	Mar 2015	Mar 2016	Mar 2017	Mar 2018	TTM
Sales	201	369	423	387	627	875	750	900
Expenses	216	322	328	318	514	711	597	704
Operating Profit	-14	47	95	69	113	164	153	196
OPM %	-7%	13%	22%	18%	18%	19%	20%	22%
Other Income	7	-42	10	9	4	-22	28	37
Interest	40	36	46	47	49	32	13	17
Depreciation	45	48	56	49	38	56	61	66
Profit before tax	-93	-79	3	-18	29	54	106	150
Tax %	-0%	-0%	0%	-0%	0%	-73%	-0%	
Net Profit	-93	-79	3	-18	29	93	107	147



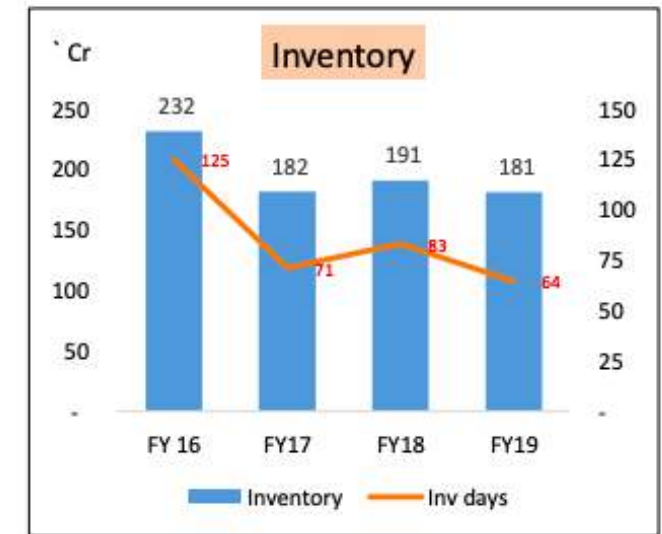
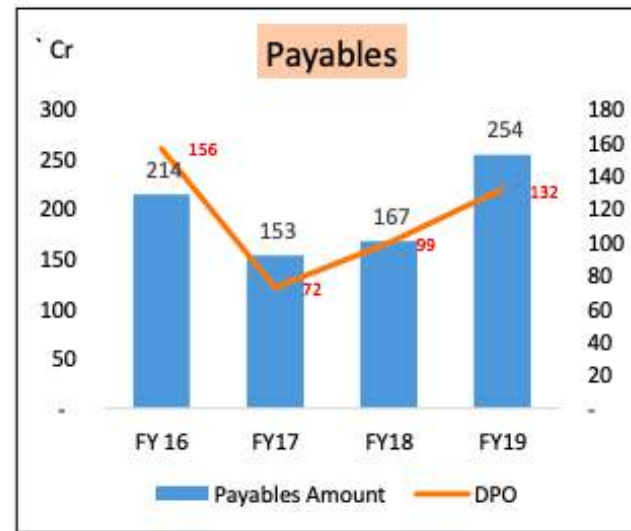
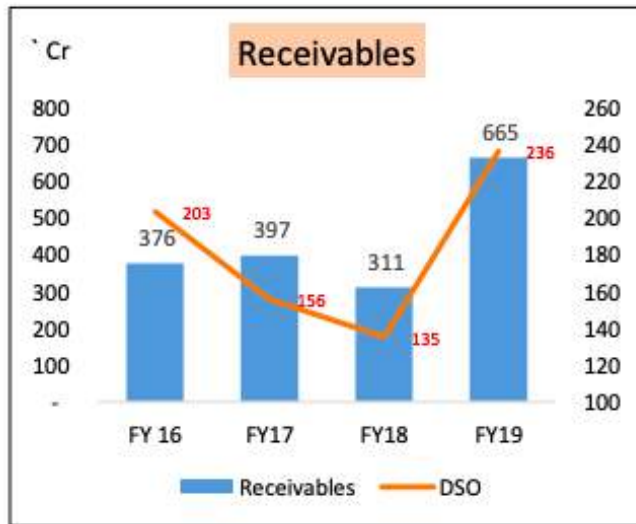
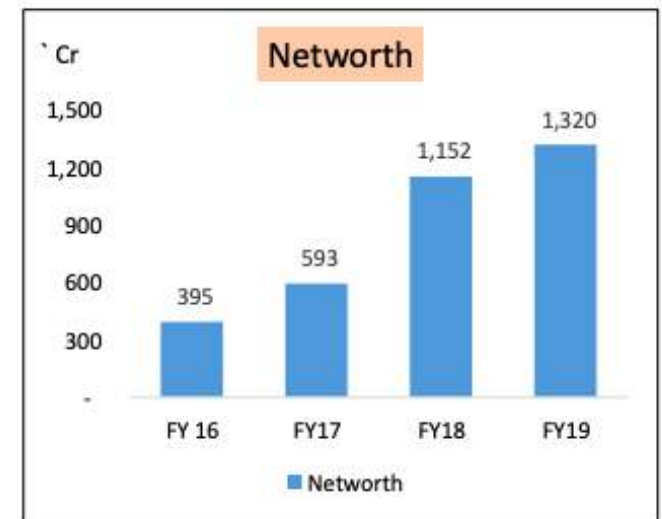
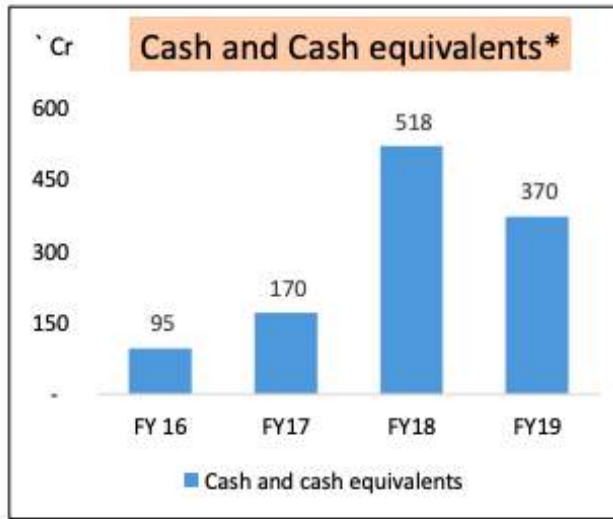
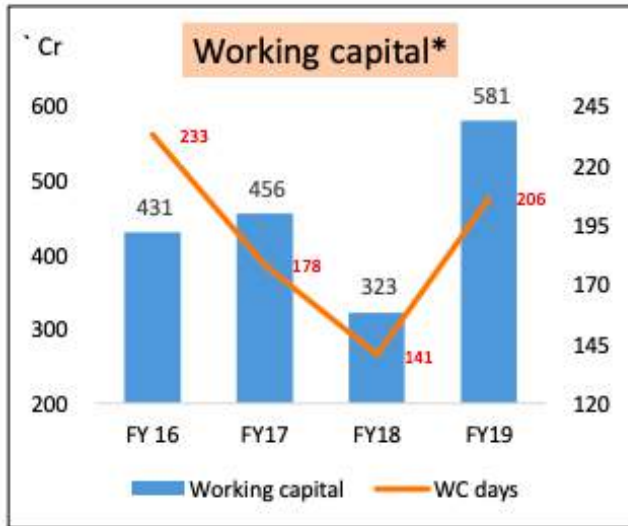
	Mar 2012	Mar 2013	Mar 2014	Mar 2015	Mar 2016	Mar 2017	Mar 2018	Mar 2019
Share Capital	62	101	101	126	67	74	94	95
Reserves	299	220	223	206	294	519	1,058	1,225
Borrowings	221	222	268	250	259	281	2	0
Other Liabilities	59	152	193	210	219	160	175	265
Trade Payables	22.7	80.87	126.78	112.33	179.98	100.73	100.4	163.53
Total Liabilities	640	656	745	728	838	1,034	1,330	1,585
Fixed Assets	111	77	65	51	94	92	75	140
CWIP	75	71	84	88	52	19	47	0
Investments	16	0	0	0	0	0	77	87
Other Assets	438	508	597	589	692	924	1,132	1,358
Inventories	231.85	214.15	208.57	220.91	231.68	181.72	190.89	181.39
Trade receivables	78.99	137.9	223.3	207.62	254.24	382.87	275.71	622.12
Cash Equivalents	26.47	58.41	22.92	49.95	69.38	71.02	235.95	123.05
Loans n Advances	53.77	48.11	54.37	53.25	49.23	145.98	356.45	5.33
Total Assets	640	656	745	728	838	1,034	1,330	1,585

# RETURN RATIO'S, CASHFLOWS





# RETURN RATIO'S. CASHFLOWS



\* Delays in payment from one large Indian Government customer resulted in reduction of Cash and Cash equivalents and increase in Working capital days for FY 19

## Strengths of Tejas Business Model

Use of mass-market FPGA devices,  
Ownership of silicon IPR,  
Outsourced "Asset-light" Manuf. to  
EMS companies in India

Majority of our costs are on manpower,  
which are India-based  
Strong software skills from India

Sales Focus on fewer, but high growth and  
large potential markets;  
Effective use of India for back-end support  
activities

Sustainable financial performance

## Advantage against Global Peers

Tejas Gross Margins are close to those of  
global peers, despite lower economies of  
scale and large proportion of India  
revenues

Benefits of India-based R&D;  
4-times R&D for same cost as  
compared to western peers

SG&A costs are half that of global  
peers, while creating a large growth  
potential

Growth, with profitability

COGS 58.2%

R&D 13.2%  
(net 5.8%)

SG & A 13.6%

Depreciation &  
Amortization 7.5%

OPERATING PROFIT  
14.9%



Lets run through some checklists

# CHECKLIST FOR COMPANY WITH MOAT

Parameter	Company with moat	Tejas	Comments
Gross Margin	>40% Durable competitive advantage	Around 48%	Employee cost 12% which is highest
SG&A	<30% Fantastic	Less than 10%	Sales will increase but still forms less than 10%
R&D	High R&D cost dictates high SG&A and threatens competitive advantage	Significant	Tejas is investing significantly in R&D but this is not very high compared earlier years. Now it will limit to 10~12% of Sales
Depreciation	Lower depreciation cost as a % of gross profit	Less than 5%	Profit shown not from higher depreciation which is good indicator
Interest expense	Low or no interest expense. Less than 15% of operating income. Lowest interest to operating income usually best	Very Nil	
Net Earnings	>20% on total revenues	14% ~ 16%	Less than 20% but comparable in industry. Can form problems competition increase
Cash & Equivalents	Medium		Enough cash to sustain



# CHECKLIST FOR COMPANY WITH MOAT CONT..

Parameter	Company with moat	Tejas	Comments
Inventory	The products they sell do not change, so they do not become obsolete. Inventory increase is result increase in sales.	2 months.	Inventories is under control with asset light model of manufacturing
Net Receivables	Lower % of net receivables to gross sales than competitors	Very High	With Govt orderbooks this is very tricky. Tejas is reducing the govt dependency but causing WC issues of more than 150 days
PPE	Doesn't need constant upgrade. Replaces when it wears out. Finances new PPE through internal cash flow	Less	Manufacturing outsourced. Has limited manufacturing to supply 18% of orders
Goodwill	Business with moat will never sell for less than book value High goodwill represents good businesses acquired at higher book value	Nil	
Intangible assets	Brand value not reflected on balance sheet. It can be competitive advantage	Yes	Tejas has 349 patents and wins consistently awards.

# CHECKLIST FOR COMPANY WITH MOAT CONT..

Parameter	Company with moat	Tejas	Comments
Total assets & ROA	Cost of assets needed to get it. If high capital required to enter business, than that is competitive advantage	Low	Not significant assets building but high R&D costs for new player to enter
Current Liabilities	Low short term debt. Less than 30% per dollar of long term debt	Almost Nil	
Long term debt coming due	Require little or no LT debt to run operations	Nil	
Total Liabilities/Shareholders equity	Very less. If the Treasury share adjusted debt-to-shareholder-equity ration is < 0.8, the company has durable competitive advantage	0.08	
Retained Earnings	Rate of growth of retained earnings is higher and indicates benefiting from competitive advantage. Companies with moats have free cash	Free cashflow in 2018-19	Slowly increasing from year 2018-19
Capital Expenditures	Uses a smaller portion of earnings for CAPEX for continuing operations than those with out. If CAPEX to earnings is less than 25% than has competitive advantage	Less	Company doesn't have large capex but huge WC



# CHECKLIST FOR MANAGEMENT TENETS

Has the management demonstrated a high degree of integrity (honesty)? –

Has the management demonstrated a high degree of intelligence?

Has the management demonstrated a high degree of energy?

Is management rational?

Is management candid with shareholders (evidence in the past of open disclosure to the shareholders when there have been problems)?

Has management resisted the temptation to grow quickly by merger?

Has management the strength not to follow the institutional imperatives (avoid following current business and sector fads)?

Has the business been free of a major merger in the last 3 years (many merger failures come out of the woodwork within this period) ?

# CHECKLIST FOR FINANCIAL & INDUSTRY TENETS

Is the return on equity adequate?	15%
Is the company conservatively financed?	Yes
Has the company had a track record of earnings growth in most years above the stock market average?	Not yet/ At less than 15% but good
Are the profit margins attractive (better than industry)?	
Has the company created at least one dollar of market value for every dollar of earnings retained?	Yes
Does your company's industry exhibit the characteristics of a high-quality industry?	Yes
Is the company industry's growth potential is above average?	Yes
What is the industry's rate of growth? How might the growth rate be increased?	Yes, 10-15%
What are the advantages of doing business in the industry?	High growth/large volume/niche
Is your company a leader in its industry?	Yes/In some geopgraphy
How innovative is your company in its industry?	High



What are the RISKS?

## RISKS

The telecom networking equipment market is characterised by rapid technological changes:

Market very competitive with competitors very big sized with better access to capital/customers

Working on Indian govt projects affects the receivables, overall payments – **BSNL might improve with new govt in new place**

Margins can easily erode if competitors start reducing prices. Tejas needs to continuously innovate and work towards lower cost

Key advantage is low R&D cost. But increasing salaries can easily drive the margins lower.

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# MANAGEMENT

# Senior Management Team: Global Industry Experience



## Sanjay Nayak

**Chief Executive Officer and Managing Director**  
30+ years experience in telecom/electronics  
Ex-Managing Director at Synopsys  
Fellow INAE, Member-FICCI Startup Committee & National Committee on ICTE



## Kumar N. Sivarajan

**Chief Technology Officer**  
*Associate Professor*, IISc, Bangalore  
*Former Chairperson*, Telecom Standards Development Society  
*Ph.D.*, California Institute of Technology



## Shirish Purohit

**Head-Sales (India and Emerging Markets)**  
25+ years experience in telecom  
*Ex-CEO and Founder* of Midas Communications  
M.Tech from IIT Madras, B.E from REC, Nagpur



## Arnob Roy

**Chief Operating Officer and Whole-time Director**  
30+ years experience in telecom/electronics  
*Ex-Manager*, R&D, Synopsys  
*Master's Degree*, University of Nebraska  
*Bachelor of Technology*, IIT, Kharagpur



## Venkatesh Gadiyar

**Chief Financial Officer**  
*Ex-Assistant Financial Controller*, Infosys  
*Fellow Member*, Institute of Chartered Accountants of India



## Ranajit Hajra

**EVP, Global Services Group**  
Former Regional Director, Global Delivery at Nokia  
27 years experience incl. at Nokia, AT&T, Philips and Tata Group



## Sukhvinder Kumar

**President, Global Manufacturing Operations**  
*Ex-CEO and Managing Director*, Eolane Electronics  
*Advanced Management Program*, IIM, Bangalore



## N.R. Ravikrishnan

**General Counsel and Chief Compliance Officer**  
*Ex-Company Secy and Head Compliance*, Infosys  
30+ years of experience in Tata, Infosys and TVS



## Abhijat Mitra

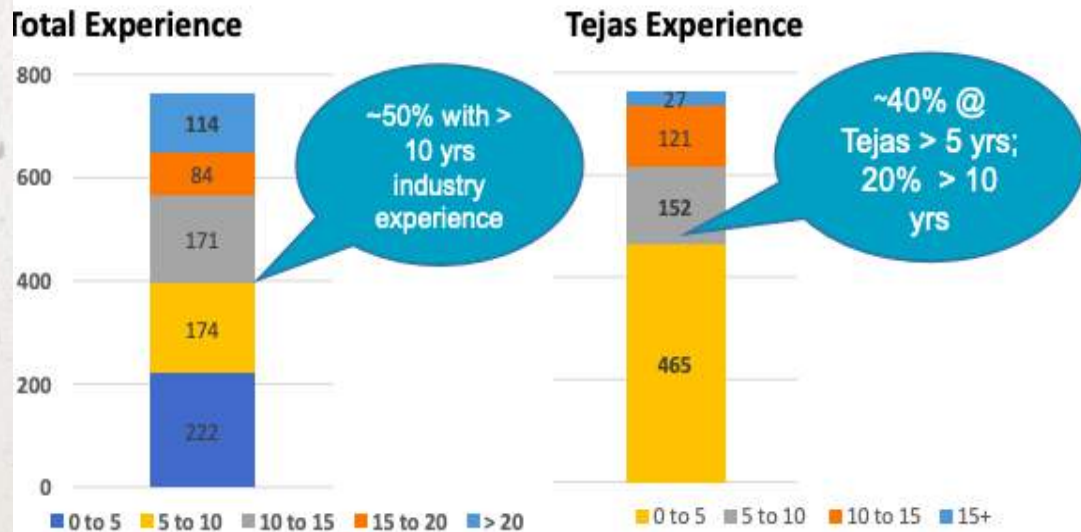
**Chief Human Resources Officer (CHRO)**  
Former HR Head of McKinsey Knowledge Center  
MBA from IIM Indore



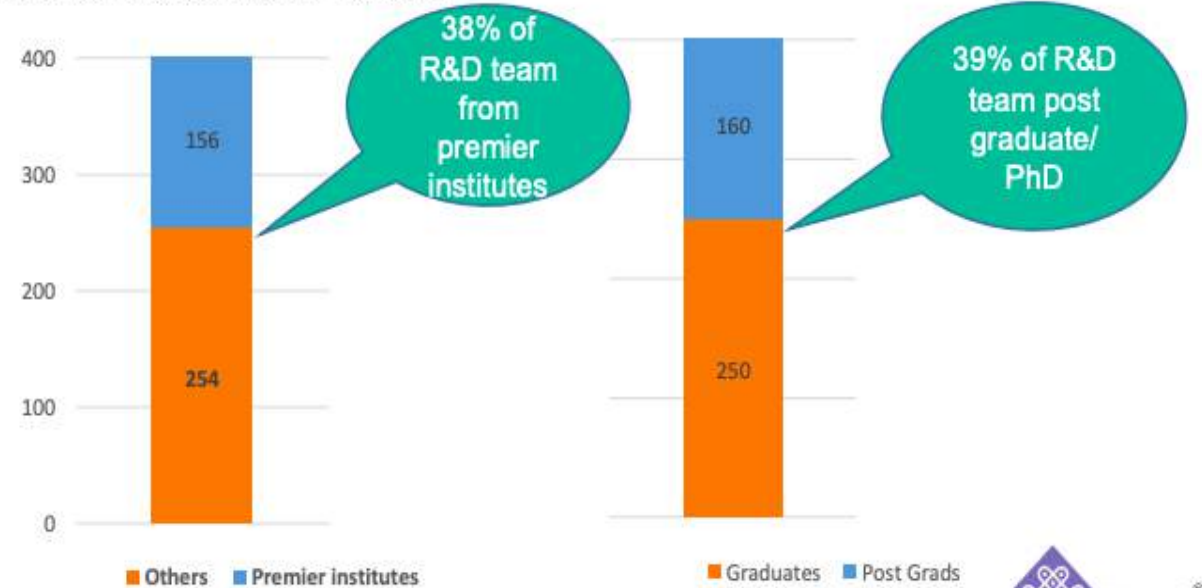
**Highly experienced Senior Sales Team**  
 Average industry experience: 22.5 years  
 Average experience at Tejas: 8.7 years

**Highly experienced Senior R&D Team**  
 Average industry experience: 24 years  
 Average experience at Tejas: 11.7 years

**Retaining Top Talent in a Competitive Industry**



**World-class R&D Team**



# Conclusions



- Data growth trend continues to be a favourable driver for Tejas business in India and International
  - Sustained R&D investments expanding addressable market and competitiveness
  - Tejas has a very competitive product portfolio from Access to Metro core
  - Increasing sales focus to increase run-rate business and international , Drive growth in International-direct, India-private
  - Make In India will be story over next 5 years and India Business continues to grow. Company realizes that India-Government (BSNL/Bharatnet) business is lumpy, but has good funnel, based on projects that are lined up.
  - Company management is passionate, focused and keen to work in a proven financial model of delivering growth, while maintaining profitability
-

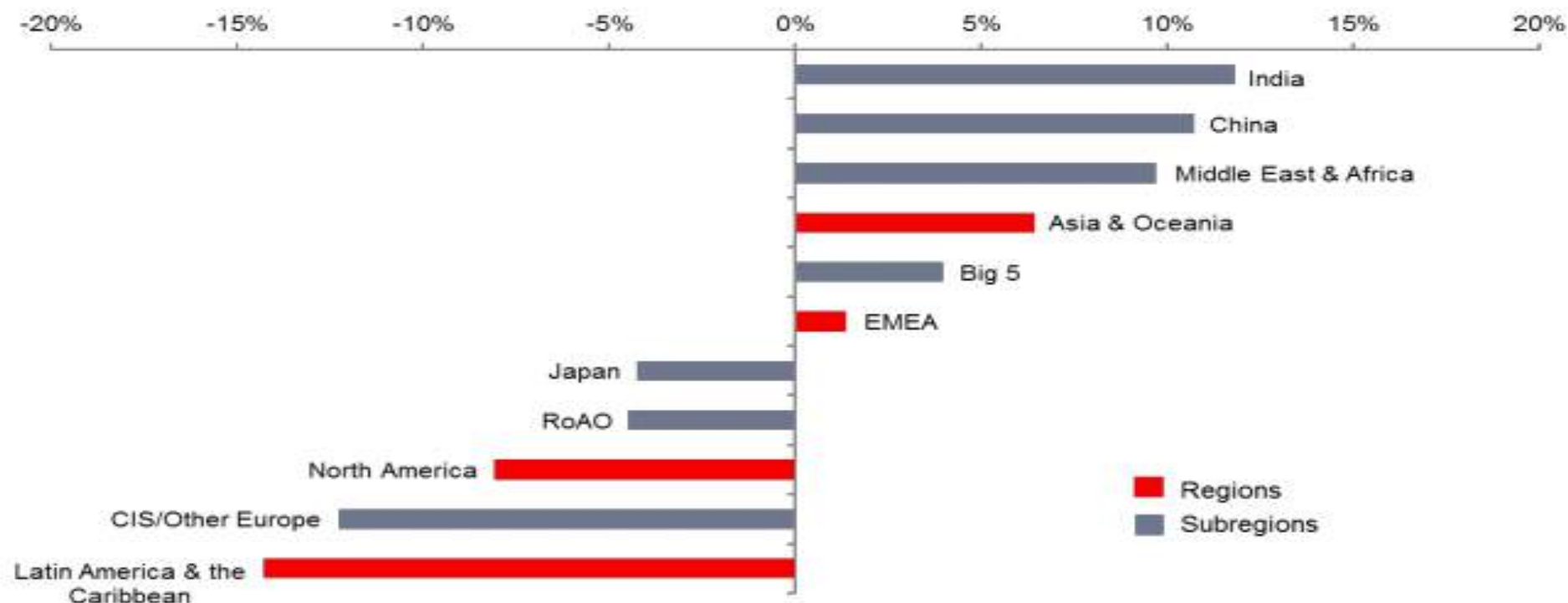
Q & A



# ANNEXURE

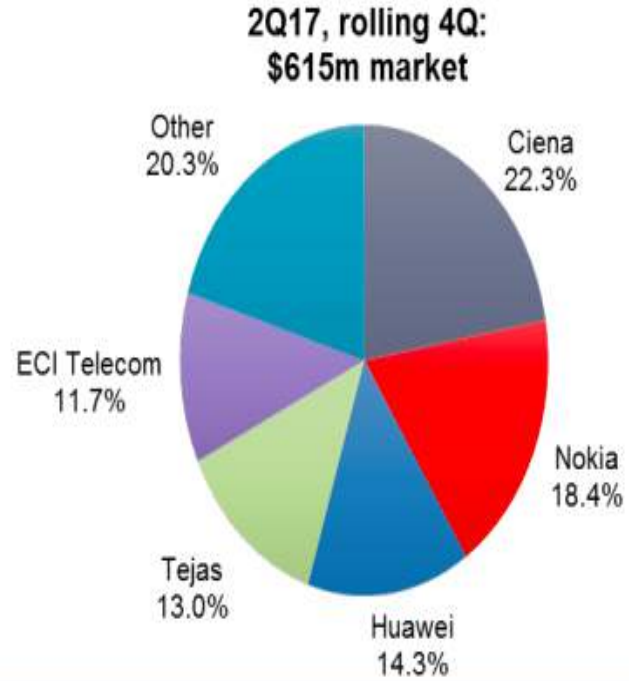
Figure 1 shows that India's ON market has grown faster than any other region in the world. The growth has been driven by Reliance Jio's aggressive 4G LTE pricing, which is stimulating fast mobile broadband growth. On October 13, 2017, Jio reported 139 million broadband subscribers with data consumption greater than 10GB/user/month since the launch of Jio's 4G LTE service in September 2016. Other carriers in India are working to respond, and currently can offer faster 4G LTE, but with higher pricing and less coverage. Jio also reported that it has the first exabyte network in the world to support this traffic. The growth in 4G mobile broadband data in India has driven 11.8% growth in optical.

**Figure 1: Rolling 2Q17 vs. 2Q16 comparison by region and subregion**

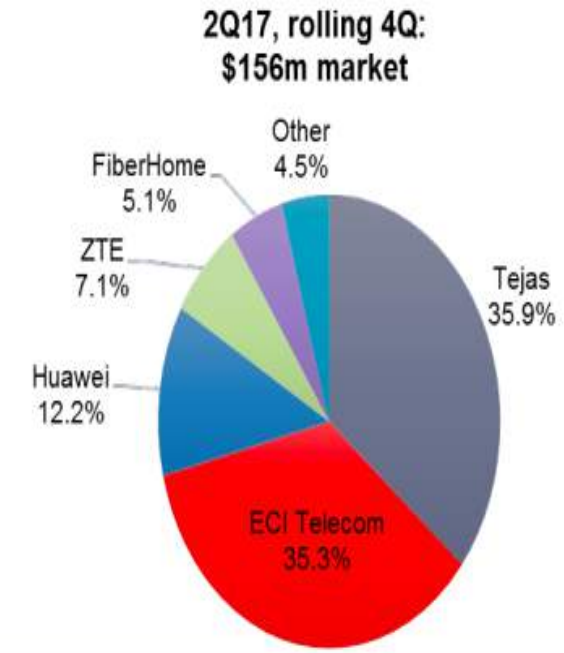




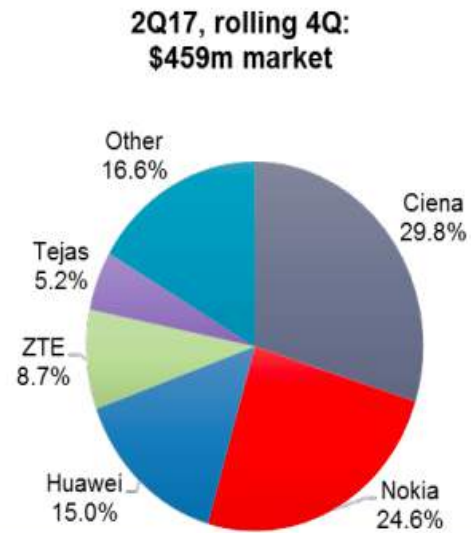
**Figure 2: India ON total – rolling 4Q, 2Q17**



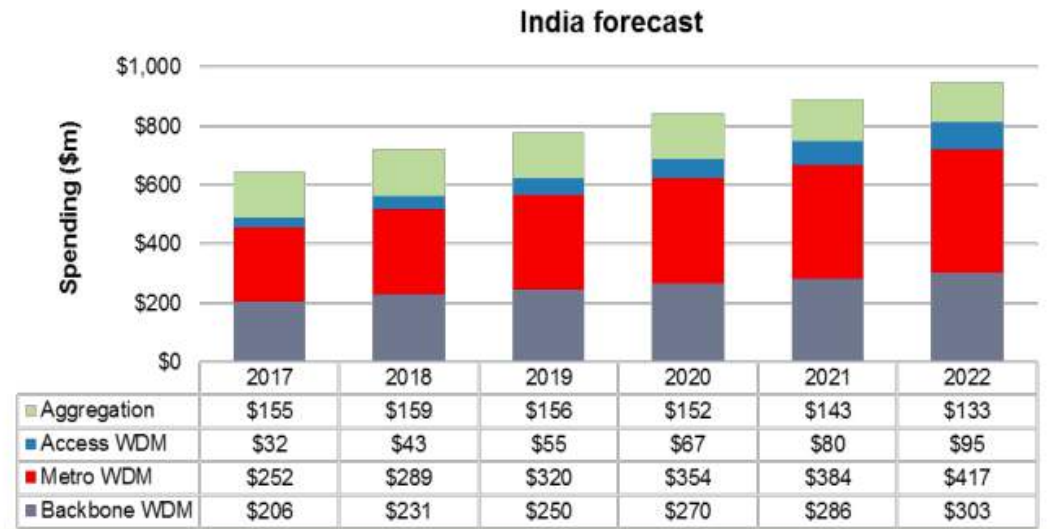
**Figure 3: India aggregation subtotal – rolling 4Q, 2Q17**



**Figure 4: India WDM subtotal – rolling 4Q, 2Q17**



**Figure 8: India ON forecast, 2017–22**



Thought on the valuation?



- Company EPS is 15.93 Rs as on 2018-19
- At current price of the 166Rs (14<sup>th</sup> June, 2019), the PE is 10.6 which is attractive
- Company can maintain growth of 15% ~20% with current products and market opportunity
- By FY-22, the EPS can be expected in the range of 26-30Rs
- At a PE which is 15~18 which is comparable in market for Hardware telecom vendors, price can be Rs.400 to Rs.450/- (PE expansion of 1.5X and EPS expansion of 2.0X)