

# Printed Circuit Board Manufacturing & Assembling

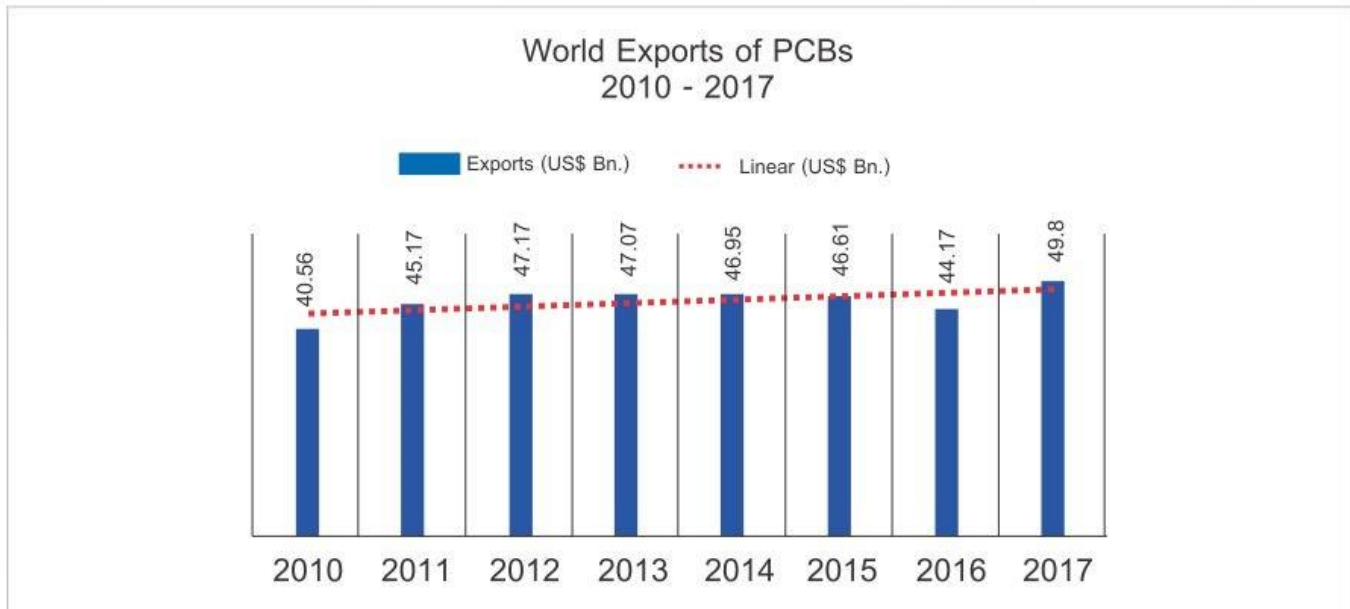
## Manufacturing



Opportunity  
Sri Lanka

## Investment Opportunities

- The global printed circuit board market is expected to reach an estimated \$72.6 billion by 2022 and is forecast to grow at a CAGR of 3.2% from 2017 to 2022.
- Asia-Pacific (APAC) held the largest market share of the global PCB market in 2017, with around 77% of the market share and expected to remain the largest and fastest growing region due to the increasing production of electronic components and devices in this region.
- North America held the second largest share of the global market in 2017, owing to the high demand from military and aerospace sector.



With the growing market demand all over the world, Sri Lanka possesses a great potential to cater to the world demand by manufacturing Surface Mounted Printed Circuit Boards for various industries

- Strong Trade relations with world leading countries especially with APAC countries
- Skilled workforce and Middle Level Technicians
- International Standards with cutting edge technology
- Significant Cost Advantages
- Location Advantage
- Extensive availability of high quality minerals

### Possible investment areas

- PCB manufacturing
- PCB Assembling
- Component Manufacturing for PCB (Conductors, Resistors etc.)



## Why Sri Lanka?

One of the most vibrant countries in South Asia with a fast growing economy offering opportunities across the value chain, backed by sound economic fundamentals and favorable future prospects



- High growth rate over past 5 years ( 6%)
- Strategically located within the East-West shipping lane network
- Keen Government focus on expanding the export basket with innovative valued added products
- Sri Lanka boasts of an age old traditional agricultural base.

Area: 65,000 Sq.km.  
Population: 21.4 Mn (2017)  
GDP (2017) : US\$ 87.2 bn GDP  
Growth (2017): 3.1%  
GDP Per Capita (2017): US\$ 4,065  
Exports (2017): US\$ 11.4 Bn Imports  
(2017): US\$ 20.98 Bn



## Why Sri Lanka?

**Strategic Location**

**Access to Global Markets**

**Educated and Adaptable Work Force**

**Investment Incentives**

**Land Availability**

**Emerging Local Industry**

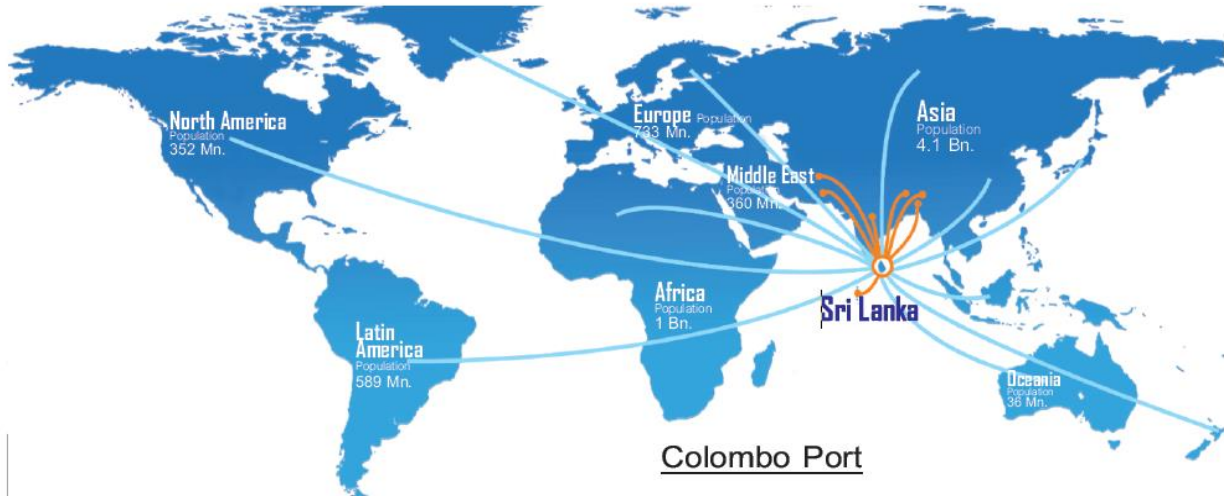
**Favorable Investment Climate**

**Quality Life**

**Success Stories**

# Strategic link to Global Supply Chain

Sri Lanka has been a geo-strategic hot spot due to its geographical positioning 6 degrees North and 79 degrees East at the center of the maritime silk route. Favourable maritime geographical factors, emerged Sri Lanka as a regional trading hub, a strategic link in the global supply chain. The Liner Shipping Connectivity Index (2016), which measures how well countries are connected to global shipping networks, scores Sri Lanka at 53, above Vietnam at 47 and Thailand at 45



- Deepest and the most efficient port in South Asia
- Present container throughput 8 Mn TEUs/ annum
- Inbuilt infrastructure to handle 20 Mn. TEUs/ Annum
- Experience in handling transshipment cargo
- Ability to handle largest container vessels
- Lead time of clearance is only one day
- 33 Major Shipping Lines in operation
- The fastest growth rate among container ports worldwide (Sri Lanka - 15.6%, Singapore - 11.2%, Guangzhou - 8.6%)
  - *Alphaliner Ranking 2018*
- 13th best connectivity port in the world in 2017
  - *Drewry port connectivity index 2017*

“We are building on the plan to expand Sri Lanka, to make it into a centre for shipping, for aviation, for communications, a logistic hub and a business hub” –

**Transit Time - Colombo Port**

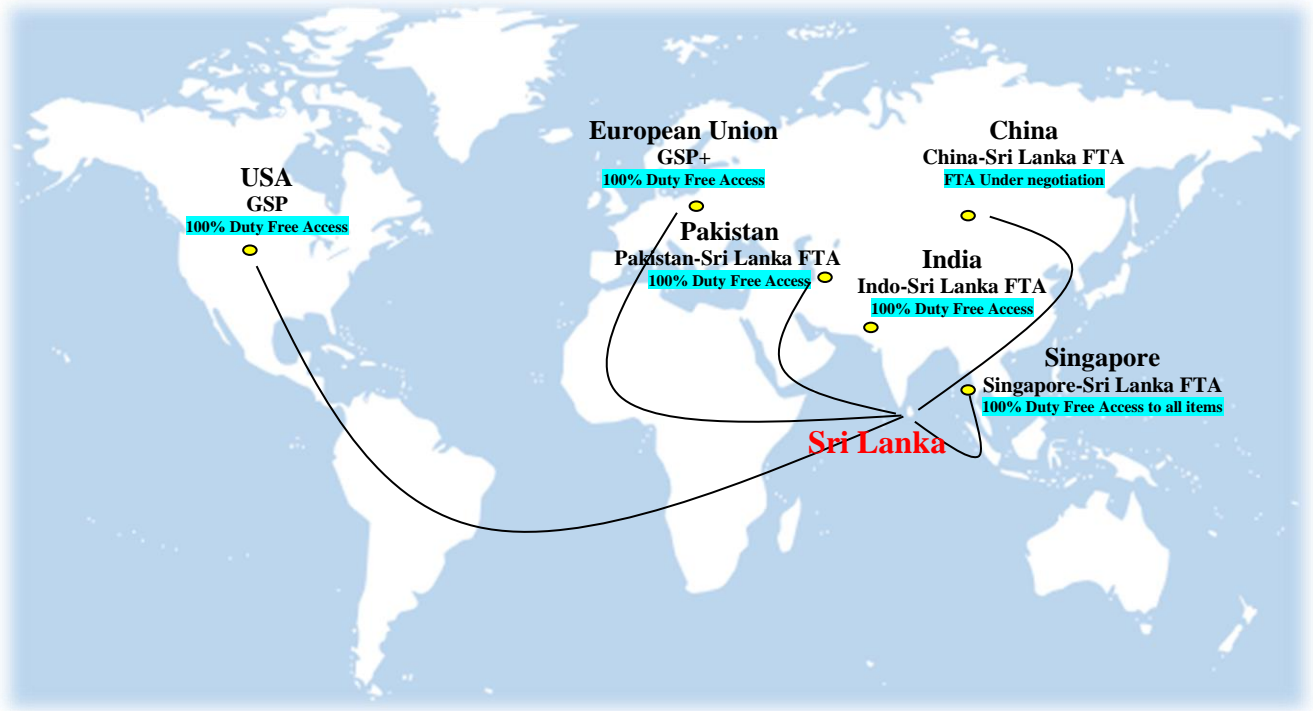
Port	Transit Time
<b>India</b> • Tuticorin	8 Hrs
• Cochin	1 Day
• Chennai	2 Days
• Kolkatta	2 Days
• Mumbai	3 Days
• Karachi	4 Days
<b>Europe</b> - Rotterdam	16 Days
<b>U.K.</b> - Southampton	14 Days
<b>Japan</b> - Yokohama	10 Days
<b>Singapore</b>	3 Days
<b>Australia</b> • Sydney	11 Days
<b>Middle-East</b> - Dubai	5 Days
<b>USA</b> - New York	20 Days
<b>Kenya</b> - Mombasa	9 Days

**No. of flights per week to major destinations**

India	168
Dubai	47
Male	39
Singapore	34
Kuala Lumpur	38
Bangkok	23
Hongkong	10
Australia	07
Turkey	07
London	06
Shanghai	06
Tokyo	04
Kunming	04
Beijing	03
South Korea	03

**Total No. of flights per week - 565**

# Access to Global Markets



## Rules of Origin

### Indo - Sri Lanka FTA (ISFTA)

- 35% Domestic Value Addition (If the exporter imports at least)
- 10% of the contracting country (India), the domestic value addition will be 25%
- HS Code Transformation at 4-digit level between raw materials and finished product
- Substantial Production Process (Not allow labeling, packaging etc)

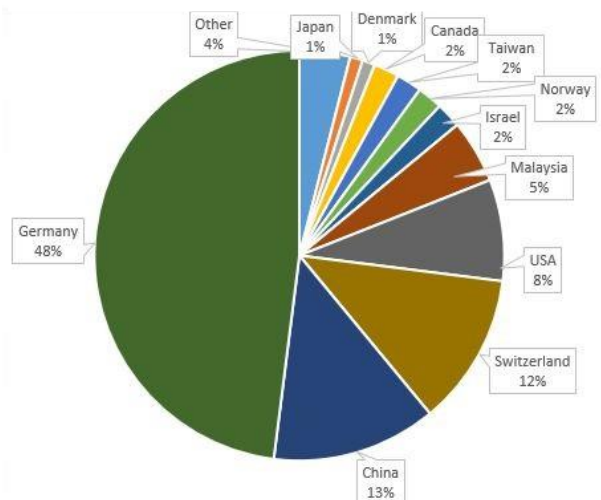
### Pakistan - Sri Lanka FTA (PSFTA)

- 35% Domestic Value Addition (If the exporter imports at least)
- 10% of the contracting country, the domestic value addition will be 25%
- HS Code Transformation at 6 digit level between raw materials and finished product
- Substantial Production Process (Not allow labeling, packaging etc)

### EU GSP+

- Duty Free Market access to 28 EU member countries through EU GSP plus Scheme (Products under HS Chapter 84, 85 and 90 and need to cover the rules of Origin)

### Current PCB Export from Sri Lanka (TOP) Destinations)



# Printed Circuit Board Manufacturing

## Educated and Adaptable Work Force

Over 1,000 Engineering graduates from university per annum

University of Vocational Technology (UNIVOTEC) records an output of over 800 graduates per annum in the field of Technology

Vocational Training institutions generate over 10,000 skilled labourers per annum.

Technology is a subject of School curriculum for Advanced Level students in Sri Lanka from 2013.

Availability of skills for Industrial Automation & Customized Robotics

Availability of skilled IT graduates

Sri Lanka has ratified 40 ILO conventions including 08 core conventions and committed to respect those conventions in national law and practice.

- Highly skilled factory workers. Several times faster and more accurate than Japanese factory workers, and have good eyesight.
- Employees are earnest. Twice as productive as Thai employees. Productivity was low at the beginning of the operation with high defective rate, but surpassed that of Thailand in 1 year.
- Sri Lankans are diligent. Highly productive with a product defective rate of 200 PPM (0.00025%)

Source: Data Collection Survey on Investment Climate in Sri Lanka Final Report  
August 2017 - Japan International Cooperation Agency (JICA)

### Salary scale (Monthly USD)

Year	Base Salary / US\$		
	Worker	Engineer	Manager
2016	165	396	720
2017	148	331	609

Year	Annual Salary / US\$		
	Worker	Engineer	Manager
2016	2422	6232	11389
2017	2856	5556	9441

Year	Monthly Salary / US\$		
	Worker	Engineer	Manager
2016	201.8	519.3	949
2017	238	463	786.8

### Exemption under Board of Investment of Sri Lanka (BOI)

- We opened our Group Service Centre (HDPL) in 2004 and now employ over 2400 talented local employees who make GSC Colombo (HDPL) a great place to work. For HSBC, how we do business is incredibly important and so it is a priority for us to operate ethically, responsibly and sustainably in order to deliver our long-term goals.



- David Grimme (Global Head of Service Delivery)

## Investment Incentives

### Exemption under Board of Investment of Sri Lanka (BOI)

- Exemption of Customs Duty on importation of capital goods during the project implementation period
- Exemption of Ports & Airport Development Levy on capital items for export-oriented manufacturing companies with an investment of over USD 200 million during project implementation period,
- Exemption from Custom duty, PAL, NBT for raw materials for export oriented projects (minimum investment USD 500,000)
- VAT deferment facility for raw materials for export oriented projects

### Tax concession under Inland Revenue Department Act

- Reduced Corporate Income Tax Rate of 14% for projects predominantly<sup>v1</sup> engaged in export manufacturing
- Accelerated Capital Allowance on Depreciable Assets in addition to normal depreciation

<sup>v1</sup> "predominantly" means 80% or more calculated based on gross income

Location	Expenses incurred on Depreciable Assets <sup>v2</sup>	Enhanced Capital Allowance	Extended Period for Deducting Unrelieved Losses	Exemption from Dividends tax & Exemption of employment income from WHT
Northern Province	> US\$ 3 Mn and < = US\$ 1,000 Mn	200%	10	X
	> US\$ 1000 Mn	200%	25	✓
Other than Northern Province	> US\$ 3 Mn and < = US\$ 100 Mn	100%	10	X
	> US\$ 100 Mn and < = US\$ 1,000 Mn	150%	10	X
	> US\$ 1000 Mn	150%	25	✓

Other than intangible assets (Class 5)

### Temporary Concessions (Only for 3 years from 1 April 2018)

Location	Expenses incurred on Depreciable Assets <sup>v3</sup>	Enhanced Capital Allowance
Northern Province	Up to US\$ 3 Mn	200%
Other than Northern Province	Up to US\$ 3 Mn	100%

- (a) Class 1 : computers and data handling equipment together with peripheral devices and  
 (b) Depreciable assets (other than intangible assets) comprising plant or machinery that are used to improve business

#### Classification of Depreciable Assets

Class 1 : computers and data handling equipment together with peripheral devices

Class 2 : buses and minibuses, goods vehicles; construction and earthmoving equipment, heavy general purpose or specialised trucks, trailers and trailer-mounted containers; plant and machinery used in manufacturing.

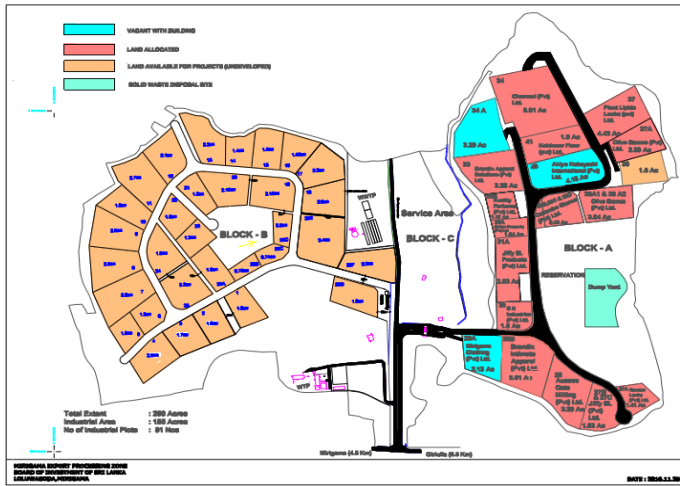
Class 3 : railroad cars, locomotives, and equipment; vessels, barges, tugs, and similar water transportation equipment; aircraft; specialised public utility plant, equipment, and machinery; office furniture, fixtures, and equipment; any depreciable asset not included in another class.

Class 4 : buildings, structures and similar works of a permanent nature Class 5 : intangible assets, excluding goodwill - applicable only for normal depreciation

## Land Access

### Mirigama Export Processing Zone MEPZ)

Out of the total land area of 261 Acres in MEPZ industrial area is about 131 Acres. Block B is vacant for new industries and Currently, there are 09 Nos industries operating in MEPZ employing 1,282 Males & 2,247 Females



WATER (m <sup>3</sup> /Day)	Present Demand	1,050
	Availability	2,250
ELECTRICITY (MVA)	Present Demand	5.5
	Availability	10
SEWAGE TREATMENT & DISPOSAL (m <sup>3</sup> /DAY)		
SOLID WASTE DISPOSAL	Non Hazardous	Dump to yard inside the park
	Hazardous	None
<b>TYPES OF INDUSTRIES RECOMMENDED</b>		
Precision Engineering, Light Engineering, Garment Manufacturing, Machinery & Equipment, Manufacturing Plastic Products, Paper board articles, Manufacturing Electronic items, Solar Panel Assembling/ Manufacturing		

### Proposed Bingiriya & Mawathagama Zones

Bingiriya and Mawathagama of Kurunegala District, North Western Province, have been chosen as the most versatile locations for the Next Zone Development by the Board of Investment of Sri Lanka.

#### Mawathagama Zone

- 1km away from main highway Katugastota-Puttalam (A10 Road) and 14 Km from main highway Ambepussa- Trincomalee (A6 Road)
- Better connectivity to capital of Colombo through the proposed Central Express Way (14 Km from Mawathagama to Proposed Interchange at Kurunegala)



#### Bingiriya Zone

- 14 Km distance from Main city (Madampe)
- 16 km from main highway Chillaw-Colombo (A3 Road)

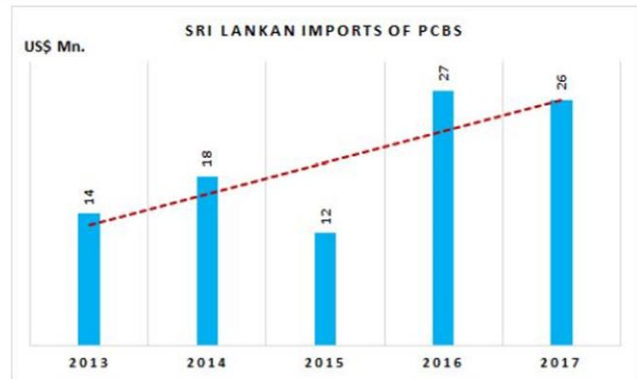




## Emerging Local Industry

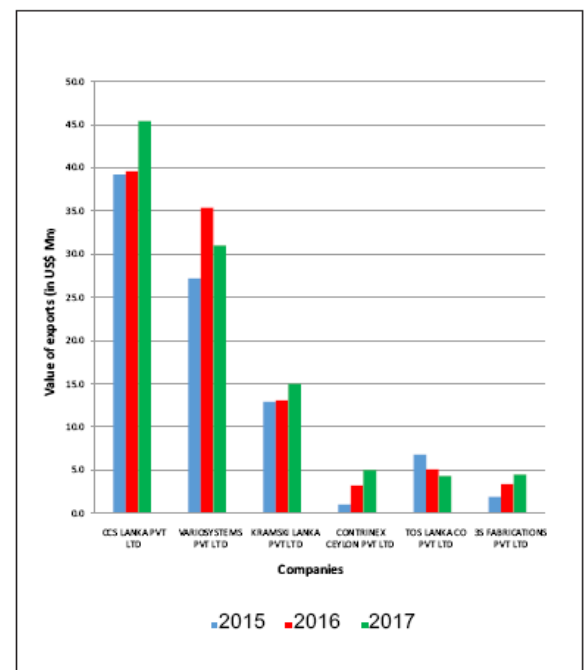
- Sri Lankan Electrical and Electronics industry is progressively stepping into the Global Electronics Value Added Supply Chain with products and services gaining acceptance amongst the most important Global Market Leaders.
- The Electrical and Electronics industry in Sri Lanka grew significantly over the past 45 years and saw it being gradually elevated to the position a key manufacturing industry contributing towards export-oriented economic growth.
- Having started as a basic assembler of Consumer Electronics and products in early 1970s, Sri Lanka shifted towards Electronic Components and Assemblies in post 1977s. In 2017, the industry's contribution to the total export revenue was US \$371.48 million.

Doubling the imports of PCBs to Sri Lanka in 2017 compared with 2013 which shows a significant growth in the local demand for PCBs



### Existing Major Players in Electronic / Electrical Assembling/Manufacturing in Sri Lanka

Company	Exports (US\$ Mn. )		
	2015	2016	2017
CCS Lanka Pvt Ltd	39.18	39.57	45.42
Variosystems Pvt Ltd	27.20	35.38	30.93
Kramski Lanka Pvt Ltd	12.88	13.12	14.97
3 S Fabrications Pvt Ltd	1.88	3.44	4.49
Contrinex Ceylon Pvt Ltd	1.01	3.20	5.04
Tos Lanka Co Pvt Ltd	6.77	5.13	4.29
<b>Total</b>	<b>88.92</b>	<b>99.84</b>	<b>105.14</b>



## Favorable Investment Climate and Infrastructure



- Total Foreign Ownership is allowed
- No restrictions on repatriation of earnings
- Safety of Foreign Investments Guaranteed by the Constitution
- Strong Intellectual Property laws in line with WIPO regulations
- Signatory to the Multilateral Investment Guarantee Agency (MIGA) of the World Bank
- Investment Protection Agreement and Double Taxation Relief Agreement with over 40 countries



**Colombo Port ranked 22<sup>nd</sup> position in world container ports, in 2016**  
- Alphaliner Rankings.

**Sri Lanka's ranking in South Asia for Electricity and Telephony Infrastructure in the Global Competitiveness Index 2017-18**

Sri Lanka	India	Bangladesh	Pakistan
92	100	114	121

**“Colombo is the only port in the Bay of Bengal that approaches global standards in terms of operation efficiency and throughput”**

- Asian Development Bank Institute - 2016

*“Moving within the city (Colombo) is much easier and cheaper than Cairo, Dhaka, Manila and Mumbai”*  
- A.T. Kearney

**Sri Lanka is the first country in South Asia to introduce next generation telecom networks (4G)**

**World's lowest entry level broadband prices**

**Sri Lanka ranked the highest in Network Readiness among SAARC countries - 2016**  
**Sri Lanka is the most efficient in South Asia in the Trading Across Border rankings – 2017**

Sri Lanka	India	Pakistan	Bangladesh
86	146	171	173

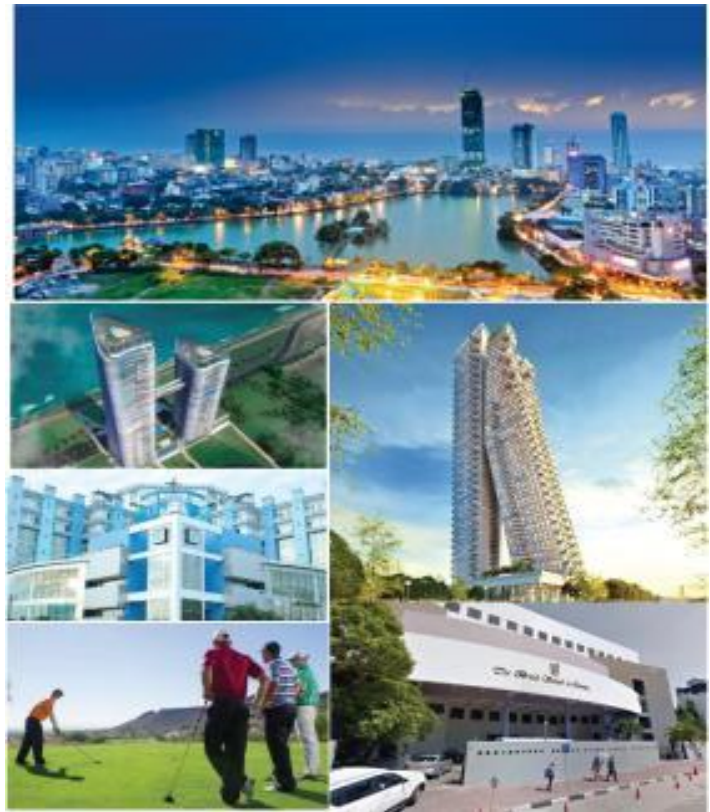
**Competitive  
Costs of  
production  
in the region**

	India (Chennai)	India (Mumbai)	Sri Lanka	Thailand	Vietnam	Bangladesh	China
Power (per Kwh)	0.12	0.13	0.12	0.11	0.12	0.12	0.15
Water (per cum)	0.87	0.32	0.43	0.415	0.61	0.41	0.76
Office rent (per sqm)	12	29.5	23	21	31	24	51
Housing	4002	6011	2098	1988	2670	3376	1688
Telephone - Local (per min.)	0.01	0.01	0.02	0.01	0.01	0.03	0.03
Internet (Broad band monthly charges)	61	26	14	89	169	363	366

## Quality of Life

### Great Place to Work & Live

- World-class International Schools
- Prestigious Hotels / Leisure Facilities
- Modern Office Complexes
- Luxury Residential Apartments
- Health Care up to International Standards
- Finance and Banking
- Clean Air



Colombo is the most livable city in the region

Sri Lanka ranked first in South Asia in the 2016 Mercer Quality of Living index

### Human Development Index Rankings (HDI)

Country	Sri Lanka	India	Bangladesh	Pakistan
Rank	76	130	136	150

Source : Human Development Report 2017

### Peaceful country in the South Asia

Country	Thailand	China	India	Sri Lanka	Myanmar	Bangladesh	Pakistan
Rank	113	112	136	67	122	93	151

Source : Global Peace Index 2018

## Success Stories

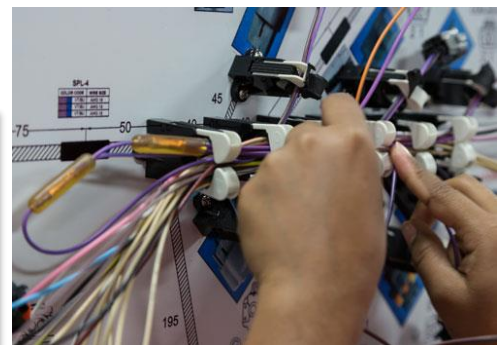
### CSS Lanka (Pvt) Ltd

- Founded in 1988
- Employment Strength - 950
- **Address** :Kurunduwattte Ln, Negombo
- Head Quarters in Switzerland
- The Group has subsidiaries in Austria, China, Hong Kong, Germany, Slovakia, Sri Lanka and Switzerland.



### Variosystems (Pvt) Ltd - Badalgama

- Founded in 1993 in Switzerland
- In 1998 Variosystems started operations in Sri Lanka as a joint venture
- Employment Strength - 1050
- Sell a complete range of contract manufacturing products including surface mount and through-hole assemblies, press-fit backplanes, turnkey box builds, and cable assemblies
- Operate production facilities in Switzerland, United States, Sri Lanka and China



# Printed Circuit Board Manufacturing

## TOS Lanka Pvt. Ltd - Biyagama Export Processing Zones

- Founded in 1995
- Section 17, 100% Japanese owned Enterprise under Board of Investment of Sri Lanka
- Owned by Tosslec. Ltd. Kyoto, Japan
- Employment Strength - 300
- Annual Group Turnover - US\$ 50 Million
- More than 20 years of commercial operation
- Focal Activity is Surface mounting of printed circuit boards for medical, industrial, automotive and ICT electronics
- specialized in automotive safety sensor harness assemblies for Toyota and other major automotive end users.



## Relevant Line Agencies

Central Environmental Authority (CEA)  
104, Denzil Kobbekaduwa Mawatha,  
Battaramulla, Sri Lanka Tel: +94 11 7877277-9 Fax: +94  
11 2872608 chaircea@cea.lk www.cea.lk

Ceylon Electricity Board (CEB)  
50, Sir Chittampalam A Gardiner Mawatha,  
Colombo 02, Sri Lanka  
Tel: +94 11 2324471  
Fax: +94 11 2329725  
Website: www.ceb.lk

Department of Commerce  
4th Floor, "Rakshana Mandiraya" 21 Vauxhall Street,  
Colombo 02, Sri Lanka  
Tel : +94 11 2329733/2346114  
Fax : +94 11 2430233/2382490  
fortrade@doc.gov.lk  
www.doc.gov.lk

Department of Immigration and Emigration "Suhurupaya",  
Sri Subhuthipura Road,  
Batta ramulla, Sri Lanka  
Tel : 94-11-5329000 Hunting Line  
Fax : 94-11-2885358  
controller@immigration.gov.lk  
www.immigration.gov.lk

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www.imexport.gov.lk

Department of Inland Revenue  
No. 81, Sir Chiththampalam A. Gardinar Mawatha,  
Colombo 02, Sri Lanka  
Tel : +94 11 3009355, 3009257  
Fax : +94 11 2337777  
www.ird.gov.lk

Department of the Registrar of Companies 400 D R  
Wijewardena Mawatha,  
Colombo 10, Sri Lanka Tel: +94 11 2689209 Fax: +94 11  
2689211 info@drc.gov.lk www.drc.gov.lk  
National Water Supply & Drainage Board (NWSDB)  
Galle Road, Ratmalana, Sri Lanka  
Tel: +94 11 2638999, 2611589  
Fax: +94 11 2636449  
gm@waterboard.lk  
www.waterboard.lk

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mail:dgc@customs.gov.lk www.custams.gov.lk

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11 2873637 info@uda.gov.lk [www.uda.lk](http://www.uda.lk)

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www.media.gov.lk

Ministry of Power and Renewable Energy 72, Ananda  
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Fax: +94 112574743  
Email: info@powerministry.asia www.powermin.gov.lk



## Board of Investment of Sri Lanka

## Sri Lanka Export Development Board

- First Point of Contact for any Foreign Direct Investment (FDI).
- Significant powers granted by Constitution
- Once registered with the BOI, facilities/incentives are valid and enforceable for lifetime of the project
- Ease of Doing Business with “Single Window Investment Facilitation Task Force (SWIFT)” facilitation to expedite implementation period by liaising between Investor and relevant line agencies through a virtual platform
- A dedicated BOI Project Officer for each project
- Visa facilities for investors, families and skilled workers
- Investor After-Care through exclusive import/export in-house service and continuous advanced infrastructure facilities within EPZs

- Sri Lanka's apex organization for the promotion and development of exports
- Facilitate for export oriented trading, especially in Global Production Network (GPN)
- Arrange one to one business meetings with Sri Lankan suppliers & factory visits
- Provide information on products, tariffs, regulations, trade statistics and other trade related information
- Enable network with Sri Lankan business Chambers, product associations and State authorities
- Liaise with foreign missions and governments to explore trade opportunities for mutual benefit
- Identifying market opportunities for Sri Lankan products

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Level 26 - West Tower,  
World Trade Center, Colombo 01.  
Tel: +94 11 2434403-5, 2435027  
E-mail: [info@boi.lk](mailto:info@boi.lk) Web:  
[www.investsrilanka.com](http://www.investsrilanka.com)

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