



Brazil, the new manufacturing hotspot for electronics?

By Hans van Wetering, Marcel Gomes, Irene Schipper
August 2015



Contents

| | |
|--|-----------|
| Summary | 3 |
| Introduction | 4 |
| The electronics industry in Brazil | 5 |
| Government policies | 8 |
| Incentives for MNC's to come to Brazil | 10 |
| Labor laws, labor inspection | 11 |
| Corporate social responsibility and the electronics industry in Brazil | 14 |
| Labor inspection at Samsung in Manaus | 17 |
| Labor conditions in Brazil and Brazilian electronics industry – general outlook | 19 |
| Colophon | 21 |
| Bibliography | 22 |

Summary

Attracted by more than a decade of economic growth and a fast expanding Brazilian middle class hungry for computers, smartphones and tablets, many multinational companies in the electronics and electrical industry in recent years have found their way to Brazil, entering into partnerships with local manufacturing companies or setting up manufacturing facilities of their own. By doing so they avoid Brazil's high import taxes and qualify for a list of tax-breaks, which consecutive Brazilian governments have scattered all over the domestic electrical and electronics industry – a sector seen as the spearhead of a process to modernize the country's industry as a whole. Often these large foreign companies are given additional benefits in return for investments in R&D and the creation of high-quality jobs.

Research, however, suggests that so far these objectives have not been realized. Promised investments haven't all materialized, and industrial activity is still predominantly simple assemblage. The industry's trade balance in the meantime is highly unfavorable to Brazil. National industry itself is still not competitive in the global marketplace and transnational corporations in Brazil tend to focus on the growing domestic market. Companies in Brazil have to deal with stringent labor laws, well-organized unions and an active labor inspection system. Offenses including excessive working hours, irregular outsourcing and inferior working conditions are commonplace and point to a structural problem.

Labour inspection progress has been made in recent years, but so far it has proved impossible for labor inspectors to monitor all companies on a regular basis. Further examination is needed to establish to what extent offenses are either industry endemic and, or companies violate their own codes of conduct. The hellish conditions known to exist in manufacturing hotspots elsewhere in the world, however, haven't surfaced in Brazil.

Introduction

In recent years several electronics multinationals (a.o Foxconn, LG, Samsung) set up business in Brazil. Brazil looked like it would become the next global manufacturing hotspot. In this paper we aim to provide an overview of the current situation, both in terms of statistics and – taking into account the situation in manufacturing hotspots elsewhere in the world – concerning labor conditions. Additionally we investigate what motivated these companies to come to Brazil.

About the authors

Hans van Wetering is a Dutch journalist specialized in Portugal and Brazil. He has published prolifically about Brazilian society. Marcel Gomes is a Brazilian journalist and currently the general secretary of the NGO Repórter Brasil. Irene Schipper is a senior researcher, specialised in the electronics sector, at the Centre for Research on Multinational Corporations (SOMO) based in the Netherlands.

The electronics industry in Brazil

To understand why multinational companies are interested in Brazil a simple glance at the statistics says it all: Brazil has more than two hundred million inhabitants and a long period of sustained, strong economic growth making it the seventh largest economy in the world (in GDP).¹

The electrical and electronics industry complex – television sets, mobile phones, household appliances, computers, and the list goes on – which employs 174.000 people (2014) has been part of this process of growth.² With total earnings of USD 50 billion in 2014 it is still rather small in comparison with other major industry complexes, but its portion in Brazil's Gross Domestic Product (GDP) grew 30% in the last decade, from 2,3% to 3% of GDP.³ Since 2011, Brazil has been the world's third largest market for computer sales, and the fifth largest market for mobile phones⁴

Locations

Since Brazil is a country of continental dimensions, the electrical and electronics industry isn't concentrated in a single production hub. Small, but important hubs exist in different parts of the country, including in São José dos Campos (aviation industry), Recife (software – Samsung, Motorola and Microsoft) and Curitiba (Siemens and Positivo Informática). However, two major hubs stand apart: the Metropolitan Area of Campinas, state of São Paulo, and the Manaus Free Trade Zone in the state of Amazonas, where an impressive list of tax-breaks at federal, state and municipal-level (reduction of 75% of Income Tax, reduction of up to 88% of Import Duty and other benefits – the price of land for construction of the industry for instance is symbolic: about USD 0,30/square meter) have attracted major internationally renowned technology companies.⁵

Local companies and MNC's

Top ICT brands like LG, Samsung, Microsoft, Panasonic, Dell, Intel, Toshiba, Sony, Philips and Sharp, Apple, Lenovo, HP, Acer, Brother, Canon, Epson, Hitachi, Ericsson, Motorola, STMicroelectronics, Qualcomm, Toshiba, Western Digital, Xerox, NEC, Nokia, Siemens, Cisco and Huawei have moved into to Brazil in the last decade. They have done so not only to try to increase their retail sales, but also to set up production facilities, or buy existing local production facilities.

Major international Electronics Manufacturing Services (EMS) providers also found their way, like Foxconn (amongst others: production of iPhones) and FIH Mobile (Foxconn International Holding), Flextronics (Singapore), Jabil (US) and Sanmina (US). Original Design Manufacturers (ODM)

1 <http://www.intelfreepress.com/news/brazil-blazes-path-for-latin-american-markets/158/> – Brazil Blazes Path for Latin American Markets – October 19, 2011

2 <http://www.abinee.org.br/abinee/decon/decon15.htm>

3 <http://www.pedbrasil.org.br/ped/artigos/A864C4DD910AFFAA.pdf> / http://arquivos.portaldaindustria.com.br/app/cni_estatistica_2/2015/02/11/165/INDUSTRIA_EM_NUMEROS_mai2015_mobile.pdf?r=0.45080128177

4 <http://economia.estadao.com.br/noticias/negocios,brasil-assume-3-lugar-na-venda-mundial-de-computador,80422e/> / <http://www.teleco.com.br/pais/celular.asp>

5 The Brazil Business – Egil Fujikawa Nes – 10 September 2012 – <http://thebrazilbusiness.com/article/manaus-free-trade-zone>

Selection of electronic hubs in Brazil



however have not been so eager. Of the ten largest in the world only one found its way to Brazil: Cal-Comp Electronics & Communications (Taiwan).

Top international ICT brands face tough competition within Brazil from domestic companies including Itautec in Jundiaí/SP (a.o. consumer electronics) and Positivo informática, which is the tenth largest computer manufacturer in the world. Positivo alone in 2013 controlled 16.7% of the national PC-market and still enjoys a big market share in education and government-projects: 40.7% (2012).⁶ Lenovo was market-leader with 18.35%, after buying CCE, a large Brazilian PC-manufacturer.⁷

Trade balance – import/export

Statistics show that after a decade of rapid growth revenues in the sector have recently been under severe pressure. This is partly due to the economic downturn of the Brazilian economy as a whole since 2013, combined with consumers preferring to buy cheaper tablets over expensive desktops. In the long term market researchers expect the domestic Brazilian market will continue to grow, supported by government policy and increasing access to broadband Internet around the country.⁸ A glance at the statistics makes clear that the expansion of the electronics market in Brazil over the past decade has not, as might be expected, resulted in a positive trade balance. The industry's trade balance is highly unfavorable to Brazil. In 2014, the electronics industry imported USD 41.1 billion and exported only USD 6.5 billion – a USD 34.6-billion deficit that takes its toll on Brazilian external accounts.

6 PC Business in Brazil – An overview – 28 december 2012 – pavanvvyas – <http://www.slideshare.net/pavanvvyas/pc-business-in-brazil-an-overview> / <http://www.aomevents.com/media/files/ISS%202012/ISS%20SESSION%208/Montanari.pdf>

7 <http://www.baguete.com.br/noticias/11/11/2013/lenovo-lider-nacional-no-mercado-de-pcs>

8 BMI Research – Brazil's Local Technology Manufacturing Risks and Rewards Finely Balanced – Brazil | Information Technology | Mon Jun 15, 2015 / <http://thebrazilbusiness.com/article/plano-nacional-de-banda-larga-in-brazil> – Plano Nacional de Banda Larga in Brazil – Egil Fujikawa Nes – The Brazil Business – 28 March 2013

Table 1 – Key electrical and electronics industry indicators⁹

| Indicator | 2013 | 2014 | 2014 X 2013 |
|--------------------------------|---------|---------|----------------|
| Nominal revenues (R\$ million) | 156,745 | 153,816 | -2% |
| Revenues (USD million) | 72,574 | 65,322 | -10% |
| Exports (USD million) | 7,218 | 6,552 | -9% |
| Imports (USD million) | 43,599 | 41,150 | -6% |
| Balance (USD million) | -36,381 | -34,598 | -5% |
| Employees (thousands) | 177.9 | 174.1 | -2% |

Latin America accounts for 56.5% (2013) of Brazilian exports, the EU for 13.8%, and US for 18.5% (2014). On the other hand, Asia accounts for much of the import (66.2 %). Imports focus on electrical and computer components including processors, micro-controllers, memories, lasers, LED diodes and LCD-type conventional displays, among others. Cables for telecommunication and electricity distribution, wires, optical fibers and connectors are mostly manufactured in Brazil.

What then is the explanation for this remarkable export-deficit? The combination of stagnating investments in innovation and research by major Brazilian companies¹⁰ and the steadily growing revenues in the domestic market has crippled their international competitiveness. In addition, some of the largest Brazilian electronics manufacturing companies are now controlled by major foreign groups that design the products abroad which are manufactured in Brazil with imported components and sold on the domestic market rather than for export. And last but not least the cost-price of Brazilian industrial produce has exploded in the last decade, due to rising wages and negligible productivity growth caused by a combination of insufficient skilled labor, inadequate infrastructure and excessive bureaucracy.¹¹

9 <http://www.abinee.org.br/ing/informac/decon.htm>

10 Investments in innovation and research by major Brazilian companies have been stagnant since 2005, and are expected to fall further in 2015 <http://exame.abril.com.br/economia/noticias/brasil-fica-em-5o-como-destino-de-investimentos>.

11 <http://www1.folha.uol.com.br/mercado/2014/08/1502977-produzir-no-brasil-e-23-mais-caro-do-que-nos-eua-de-acordo-com-estudo.shtml>

Government policies

Stimulus programs to modernize the country's industry and ensure balanced economic development

Brazilian governments have for decades seen the electrical and electronics complex as the spearhead of a process to modernize the country's industry. When the government of President Luiz Inácio Lula da Silva, which included many nationalist and developmentalist politicians and economists, came to power in 2003, government policies focused on stimulating innovation and increasing electronic exports to drive growth in this sector.

"The real goals to be achieved," Maximiliano Salvadori Martinhão, telecommunications secretary of the nation's Ministry of Communication said in 2011, "is a growing share of the population getting access to the information society, with its effects on education, income, etcetera, as a tool for economic and social development and reduction of poverty."¹² In 2010 a National Broadband Plan (PNBL) was set up, aimed at universalizing broadband access in Brazil. The program entailed huge investments and formed another stimulus for the industry and, at the same time, for the economy of underdeveloped parts of the country. For the current government of President Dilma Rousseff, the electronics industry is one of the targets of the Greater Brazil Plan – a billion-USD government program launched in 2011 to lower the industry's tax burden and encourage innovation, local production, and exports.¹³

Protectionism

In order to stimulate domestic electrical and electronics industry and realize an enlargement of the production chain within the national territory, Brazilian companies were to be protected against cheap imports. Preferential treatment was one of the mechanisms through which this was, and still is, realized. A law proposed in 2014 determines that locally produced computers, printers, hard drives, scanners and software can win public tenders, even if they are up to 20% for hardware and 18% for software, more expensive than foreign imports.

High import taxes are another important tool in protecting the national industry. Domestically manufactured production enjoys additional tax advantages. In 2011 a new law exempted Brazilian tablet-manufacturers from 9.25% social security taxes. At the same time the industrial production tax was reduced from 15% to 3%. Lowering the cost of tablet-computers was seen as complementary to the national broadband plan. In 2013, the welfare tax on smartphones made in Brazil was abolished, in just another attempt to stimulate technological innovation and bring the digital age to the lower middle class.

In order to qualify for tax-exemptions companies had to meet several requirements, focused on strengthening national industry. In 1991 an information technology law (nova lei de informática) was passed in which the so called Basic Productive Process (PPB)¹⁴ was introduced: an incentive that reduces taxes if companies perform certain production activities within the Brazilian territory

12 <http://www.intelfreepress.com/news/brazil-blazes-path-for-latin-american-markets/158/>, Brazil Blazes Path for Latin American Markets, October 19, 2011.

13 <http://www.brasilmaior.mdic.gov.br/images/data/201411/f97a72083144d28b26013b7261e7e06b.pdf>

14 Processo Produtivo Básico, known as PPB.

and spend 5% of its revenue in R&D.¹⁵ So, for instance, when the Brazilian government in 2005 set up its “PC conectado – Computador para todos” (PC connected – computers for everyone) – a program which provided for tax-breaks for low-end cheap computer-products, the businesses that wanted to take part in this program had to fulfill the requirements laid down in the PPB. In order to apply for these tax breaks on tablets and smartphones firms were required to use a specified percentage Brazilian-made components in their tablet computers: 20% in 2012, increasing to 30% in 2013 and 50% in 2015. And in order to obtain the approval of industrial projects within the Manaus Free Trade Zone companies were obliged to satisfy additional requirements like job creation in the area, concession of social benefits to the workers, permanent training of the workforce and reinvestment of profit in the region.¹⁶

Policy results

The extent to which these government policies have been successful is debatable. Large segments of the population have access to the internet, but many areas in the northeast and north of Brazil still lack digital signals. Investment in new technology has been stagnant. It is questionable whether enlarging the production chain within Brazil did substantialize to the extent governments had in mind. Tech-companies have indeed come to Brazil, but many components are still imported, so industrial modernization is only partial. So far, export levels have not met expectations. The Brazilian electronic industry itself is still not competitive in the global market and the arrival of these transnational corporations and the expansion of foreign direct investment did not – as was expected – increase the share of Brazil in global trade.¹⁷

15 <http://www.liraa.com.br/conteudo/2562/processo-produtivo-basico-ppb>

16 The Brazil Business – Egil Fujikawa Nes – 10 September 2012 (<http://thebrazilbusiness.com/article/manaus-free-trade-zone>).

17 <http://www.anpec.org.br/encontro2008/artigos/200807211355590-.pdf>

Incentives for MNC's to come to Brazil

Huge investment programs targeted at developing a national electronics industry, tax-benefits for local companies, high import taxes, and on top of this, a fast growing lower middle class demand for consumer products like smartphones and computers – got MNC's interested to come to Brazil. Producing behind the tariff-wall and fed by all kinds of tax-breaks and additional benefits a substantial cut in consumer prices was possible. It was all about 'being where the market is', Foxconn stated when they decided to come to Brazil in 2011. And although they also stressed the importance of being 'strategically positioned to meet the needs of growing markets throughout Latin America' so far this hasn't resulted in substantial export-figures.¹⁸

Benefits in exchange for investments in R&D

In return for tax-exemptions and benefits, foreign companies must promise to invest in R&D and create high-skilled jobs as 'transferring technology' is one of the government's main industrial policy objectives. Still, to what extent companies are willing to fulfill or have fulfilled their obligation to transfer technology is not entirely clear. Given that investment in the electronics industry is stagnant and high-value parts are mostly imported, it is questionable whether foreign companies are dedicated to investing in high-skilled labor. Upon building a new plant or entering into a new partnership in Brazil foreign companies indeed announce impressive R&D investments. It was recently announced that China's ZTE plans to build an R&D center in Sao-Paulo state and Huawei Technologies is investing USD 300-400 million in a research center in Brazil. But to date, most production is simple assemblage and promises about investment in R&D have been just that, promises.¹⁹

When Foxconn came to Brazil in 2011, President Rousseff promised that the company would invest USD 12 billion in the country. A 100.000 jobs, a new supply chain, and high-quality jobs would be created. Foxconn would transform the Brazilian technology sector. In the mission statement on Foxconn's Brazilian website the importance of creating high-quality jobs is still mentioned as being of paramount importance, but so far none of these commitments have become reality. Just a fraction of the 100.000 new jobs was created, and the work is mainly low-skill assembly.²⁰

Given the fact that similar low-skill assembly manufacturing hotspots elsewhere in the world that are known for poor labor conditions, leads to the question: do similar labor conditions exist in the Brazilian electronics industry?

18 <http://www.reuters.com/article/2011/04/13/us-brazil-foxconn-idUSTRE73B6BD20110413>. – Wed Apr 13, 2011 – Foxconn says looking at investment opportunities in Brazil, by Jonathan Standing, Argin Chang and Faith Hung

19 BMI Consumer Electronics Report, Brazil Consumer Electronics Report, July 1, 2015

20 <http://www.reuters.com/article/2011/04/13/us-brazil-foxconn-idUSTRE73B6BD20110413> – Foxconn says looking at investment opportunities in Brazil – Wed Apr 13, 2011 – Jonathan Standing, Argin Chang and Faith Hung / <http://foxconn.com.br/Historia.aspx>

Labor laws, labor inspection

Restrictive labor laws

The main legal framework concerning the rights of Brazilian workers is the Consolidation of Labor Laws (CLT), the country's Labor Code launched in 1943. Brazil's 1988 Federal Constitution, now in force, consolidated in its social rights several items stipulated on CLT, and also determined that the principles of worker protection and valorization of human labor should guide labor jurisprudence. In support of the Constitution and CLT, the legal framework on labor is grounded in a series of lower and specific regulations such as the regulatory standards (NRs) of the Ministry of Labor and Employment, constructions codes, states' and municipalities' health regulations, and collective bargain conventions and agreements. Compliance with these regulations is mandatory for private and public companies, state agencies of direct and indirect administration, and agencies of the Legislative and Judicial branches that have employees hired under CLT.

Stripped down to its essentials CLT regulates the following:

1. Employment protected against arbitrary dismissal or without a just cause, with payment of compensation;
2. Minimum wage, able to meet workers' basic living needs and those of their families;
3. Irreducibility of wages;
4. Participation in profits or results as defined by law;
5. Regular workweek not exceeding forty-four hours;
6. Annual vacations paid at a value at least one third above normal wages;
7. Advance notice of dismissal proportional to length of service;
8. Premium payment for strenuous, unhealthy or dangerous activities;
9. Retirement;
10. Insurance against work accidents.

The Brazilian labor legislation is considered one of the most comprehensive, and complex, in the world. Regulated within the CLT are a thirteenth paid month, four month maternity leave for women and five days for men, 30 days paid vacation, company-transport and meals which includes a place to eat.²¹

Unions

Workers in Brazil's electrical and electronics industry are represented by metal workers' unions. Their activity includes ratifying individual dismissals and negotiating collective bargain agreements. Metal workers are among the best organized in Brazil. In the metropolitan area of São Paulo for instance unions have their own daily newspaper and TV-station. When layoffs are announced, protests are quickly organized. In Brazil, according to government figures, about 20% of workers are unionized. Among metalworkers, this is at least 40%.²²

21 Common Benefits in Brazil, Andréa Novais, The Brazil Business, 17 December 2013 – <http://thebrazilbusiness.com/article/common-benefits-in-brazil>.

22 Eric Ehrmann – High Flying Apple Hits Turbulence In Brazil, Foxconn's Gou Calls Workers 'Animals' – 07/02/2012 – http://www.huffingtonpost.com/eric-ehrmann/apple-brazil-foxconn_b_1463666.html.

It has happened that unions were forbidden access to a company and were prevented from organizing meetings. Incidents were reported of private security firms banning unions from factory premises.²³ But as a rule of law, access is provided, and requested documents are handed over. When a company refuses to cooperate, if called upon, police can force the company to comply.

Labor prosecution office

Labor law oversight in Brazil is performed by two groups of civil servants: labor auditors linked to the Ministry of Labor and Employment (MTE), and Labor Prosecutors (MPT). Auditors are MTE's main institutional body. They are in charge of preparing regulatory standards, checking violations of labor laws, and applying monetary fines of fixed or variable values that are established by law according to each violation. They conduct regular inspections at enterprises and government agencies from their regional offices located in municipalities.

The Labor Prosecutor's Office (MPT), in turn, is the branch of the Union's Public Prosecutor's Office that acts to provide protection to citizens' fundamental and social rights against illegalities in the labor sphere. Prosecutors have functional and administrative autonomy, and act independently of the legislative, executive and judicial branches of government. The MPT is also the agency that takes legal action in cases under the competence of Labor Justice, as a part or as an overseer of the law.

MPT also takes strong extrajudicial action by promoting agreements with a specific company in order to improve working conditions in a given sector. Such agreements, made up after poor labor conditions or other work-related violations have been ascertained in a company, are called Conduct Adjustment Agreements (TAC). TAC's usually contain detailed provisions on compliance with the legislation in the areas where violations are identified. Details of sanctions in case of violation are stipulated. Companies often chose to avoid the publicity of a court case and sign the TAC. Prosecutors also prefer TAC to court. A public lawsuit could mean spending years in court, while a TAC has immediate effect on working conditions and the money paid as a labor fine is directly available for social initiatives for workers and public and national funds. Samsung, LG and Philips are companies that recently have signed a TAC with the Labor Prosecutor's Office.

23 <http://www.redebrasilatual.com.br/trabalho/2012/02/metalurgicos-da-lg-de-taubate-aprovam-estado-de-greve> – Metalúrgicos da LG de Taubaté aprovam estado de greve – 02/02/2012 – Or worse: <http://www.vermelho.org.br/noticia/14324-8> – 20 march 2007 – Mais de 20 viaturas da PM atiram contra greve em Betim/

Industry associations

By far the largest industry association is the Brazilian Electrical and Electronics Industry Association or Abinee. Abinee's members include almost every company operating in the areas of electricity generation, transmission and distribution, computer technology, telecommunications, and industrial electronic materials. A second major organization is the National Association of Manufacturers of Electrical and electronics Products (Eletros), which represents companies from the white goods, audio and video, and portables industries. Both of these associations, so far, have avoided becoming involved in these labour conflicts. The extent that they are engaged in Corporate Social Responsibility (CSR) policies and practices is debatable. The mission statement on Abinee's website is not very specific when it comes to CSR issues given that it states "To safeguard the integration to the community", and that Abinee recognizes the need to be "sensitive to social demands" and the importance of sustainable development.²⁴

24 <http://www.abinee.org.br/ing/> + <http://www.abinee.org.br/ing/abinee/associa/emptl.htm>

Corporate social responsibility and the electronics industry in Brazil

Environmental Issues

By and large, the main environmental legislation that has required most from the electrical and electronics industry is the National Solid Waste Policy, established in 2010. Its main innovations included shared responsibility for product disposal and ‘reverse logistics.’ The law states that the National Solid Waste Policy is an “economic and social development tool characterized by a set of actions, procedures and means to enable the collection of solid waste and their return to companies to be reused in their cycles or in other production cycles, or other environmentally sound final destination”. However, four years later several companies still have not complied. A study published in 2014 found that almost half or 40% of all waste produced in Brazil is still not disposed of properly.²⁵

The federal government is currently preparing a new WEEE (waste electrical and electronic equipment or so-called e-waste) proposal for the electronics industry. In 2015 the sector generated approximately 1.2 thousand tons of e-waste; however the collection and reuse initiatives are still rare. The manufacturing industry argues that consumers should also help pay for e-waste disposal by paying a consumption tax-fee. This proposal by the wider electronics industry is being discussed by Congress and the federal government.²⁶

‘Minor abuses’

Legislation is stringent, labor inspection is well organized, and union-membership is substantial, yet strikes still frequently occur. Strikes have taken place because internal training and employee career plans which companies committed to providing have not materialized. Companies that have violated the PLR agreement, which is a results-based bonus payment scheme, mandated in the CLT, have had workers go on strikes in recent years.²⁷ Strikes have also been organized to protest against non-existent or poor health care plans and to denounce various ‘minor’ CLT offenses including the shortage of fresh water and, very frequently, poor meals and failing company transport as is the case at Foxconn in Jiundai.²⁸

25 <http://www.abrelpe.org.br/>

26 <http://www.brasil.gov.br/economia-e-emprego/2014/02/estudo-sobre-logistica-de-residuos-eletronicos-e-divulgado>
Complete study available at http://www.mdic.gov.br/arquivos/dwnl_1362058667.pdf.

27 <http://olhardigital.uol.com.br/pro/noticia/funcionarios-da-foxconn-entram-em-greve-no-brasil/44117> – Funcionários da Foxconn entram em greve no Brasil -Por Redação Olhar Digital – 15/09/2014.

28 <http://www.techguru.com.br/foxconn-de-jundiai-pode-entrar-em-greve-na-semana-que-vem/> – Foxconn de Jundiaí pode entrar em greve na semana que vem – 26 de abril de 2012 / http://portaljj.com.br/interna.asp?Int_IDSecao=3&Int_ID=176018 – 25/04/2012 – Greve ameaça produção da Foxconn em Jundiaí – Jornal de Jundiaí / Trabalhadores da montadora de produtos da Apple entram em greve no Brasil – Por Bruno Micali – 24 abr 2015 – <http://www.jj.com.br/noticias-14410-funcionarios-da-foxconn-i-entram-em-greve->.

Harassment

And then there's harassment. An investigation on moral harassment at the Samsung Factory in São Paulo resulted in the company signing a TAC with the Labor Prosecutor's Office in 2015. Under the agreement, Samsung committed to developing and publicizing a USD 1.6 million campaign on harassment through TV films, radio spots and magazine ads, and pay "social reversal" fines of moral damages of over USD 1.6 million to social institutions.²⁹

Sometimes harassment appears to be related to cultural differences. In 2010 employees of LG Electronics in Taubaté went on strike to protest against bullying, insults, profanity and abuse by the management, and one employee sued the company for moral and physical aggression after she was slapped on the back and verbally insulted by her manager 'Mister Ahn'. Korean management style was to blame it was said.³⁰ Further research could shed light on the question to what extent this 'cultural' problem is common within the industry.

Sometimes these harassment charges border on the absurd. In 2012 a Foxconn-employee sued the company after CEO Terry Gou called his employees "animals" and said that he found managerial inspiration in the way the famous Taipei-zoo was run.³¹ The woman argued in court that she didn't dare leave her house for fear of being mocked by friends and claimed USD 1600 in "moral" damages. In cases like this one has to bear in mind that the rigidity and complexity of Brazilian labor laws makes it hard for companies to adhere to all requirements and because employees know this, there are ample cases of workers taking their companies to court. "Brazilians love to sue their employers", and according to the internet site 'The Brazil Business' this so-called "cultural behavior" is a way to make "easy money."³² Grave harassment however, does exist and has been reported but to what extent harassment is a structural problem, is open to further research.

Excessive working hours, irregular outsourcing and inferior working conditions

According to Sandro Sardá, public prosecutor and member of a special taskforce responsible for inspections of large companies, major problems exist in the electrical and electronics industry. He says that Asian companies' performances are particularly under par. Sardá has conducted investigations at Samsung and LG where many labor violations were reported. According to Sardá, three types of violations are most common in the electrical and electronics sector.

Firstly, excessive working hours is one of the most common labour violations. CLT stipulates that the maximum work week must not exceed 44 hours per week and overtime cannot go beyond two hours a day. In reality, employees working much more than ten hours a day is commonplace and supervision is insufficient.³³

29 <http://exame.abril.com.br/negocios/noticias/samsung-brasil-e-multada-em-r-10-milhoes-por-assedio-moral>

30 O Estado de S.Paulo Assédio moral assombra a LG – Paula Pacheco – 8 de fev de 2010.

31 We Want China Times, 'Foxconn chairman likens his workforce to animals', 2012-01-19 – <http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20120119000111&cid=1102&MainCatID=0>.

32 <http://thebrazilbusiness.com/article/brazilian-employment-law-in-a-nutshell> – Brazilian Employment Law in a Nutshell – Andréa Novais – The Brazil Business – 15 May 2012.

33 <http://thebrazilbusiness.com/article/brazilian-employment-law-in-a-nutshell> – Brazilian Employment Law in a Nutshell – Andréa Novais – The Brazil Business – 15 May 2012

Secondly, irregular outsourcing is also commonplace as many companies in the industry try to circumvent the law by indefinitely renewing temporary contracts. Irregularities are found at Samsung and LG factories in Manaus.

The third, most common violation is poor and unsafe working conditions. Poor work conditions and the excessive work-pace leads to serial diseases and work-related accidents. Poor working conditions appear to be endemic in the electronics industry and have resulted in several companies being fined. A comprehensive study was published in 2012 which showed that around 3 workers out of 100 in the Brazilian electronics sector had workplace accidents between 2006 and 2008, which is above the national average of 2%.

Exposure to chemicals during production is another problem. Philips has signed a TAC with the Labor Prosecutor's Office in April 2015. This agreement ensures compensation of R\$ 20 million to former employees of the company that have been contaminated by mercury during the manufacture of fluorescent bulbs in an industrial plant located in the city of Mauá.³⁴

34 <http://goodelectronics.org/news-en/philips-has-to-compensate-workers-contaminated-with-mercury>

Labor inspection at Samsung in Manaus

Samsung is one of the multinationals that has attracted special attention from the labor inspection. The company is Brazil's largest electronics manufacturer focused on consumer goods and has more than ten thousand employees in its factories located in the states of São Paulo and Amazonas. Samsung's working conditions seems to contravene the company's own code of conduct.³⁵

Workpace

The most serious problems at Samsung were found in Manaus after inspections conducted in 2013 and involved the time each assembly line employee has to complete their task. An employee of Samsung's factory in Manaus, which employs 5600 workers, had just six seconds to prepare a cell phone box for packaging, which included a battery charger, a headset and two instruction manuals. After that, the package was passed on to the next employee in the assembly line, who was in charge of scanning the package at two different points, and then putting a sticker on it. On a single day, one worker would repeat that same process 6800 times a shift. At this factory, built at the heart of the world's largest rainforest by the South Korean multinational company, one TV set is placed in a cardboard box every 4.8 seconds. Dozens of workers arranged along the production line together take 85 seconds to assemble an entire smartphone and an air conditioner is ready in less than two minutes. The relentless pace of work is not the only problem. Labor prosecutors have found that many workers stand up to ten hours without breaks. Some work as much as 15 hours a shift, some had worked almost a full month without any break.

The above data that could inspire an Amazonian version of Charles Chaplin's "Modern Times" are included in an August 2013 Public Civil Lawsuit (PCL) against Samsung. A lawsuit filed by prosecutors was based on violation notifications issued by the Ministry of Labor and Employment (MTE) auditors after two inspections at the factory in Manaus – one in May 2011 and another one in May 2014. The public prosecutor fought for at least USD80 million in collective damages to be paid by Samsung for workers whose health had suffered due to the intense pace and repetitive activity of the assembly line.

Rather than pay the damages, Samsung cut a deal. In an agreement signed December 2014, Samsung committed to provide 10-minute fatigue or recovery breaks for each 50 minute period worked by all employees in its production line. It also agreed to series of measures including ergonomic improvements of workstations, improving methods for heavy manual work, limiting overtime to two hours and ensuring that workers can sit to work whenever possible. The firm also agreed not to hire temporary workers except for legal cases, to give employees paid time off, and to provide proper equipment, tools and issue accident reports.

Serial Diseases

Labor prosecutors were not able to calculate the exact number of people who work exhaustive hours or who are forced to work overtime at Samsung. The company was notified and told to

35 <http://www.sec-audit.com/por/main.asp>

present the documentation on working hours, but Samsung refused to show it. Samsung's facility in Manaus has had a very high disease rate for some years now. Over the past year, according to the lawsuit spinal illnesses, cases of tendinitis and bursitis caused by repetitive stress injury, as well as other work-related MSDs, or musculoskeletal disorders resulted in 2,018 requests for health-related leaves of absence for up to 15 days.

If the mobile phone and TV set assembly work system are not changed, Brazilian prosecutors estimate that about 20% of employees in this sector will develop some kind of MSD within the next five years. Through technical assessments, they found that the South Korean company's employees perform up to three times more movements per minute than the limit considered safe by ergonomic studies.



Workers stand for up to ten hours, according to labor prosecutors. Photo: Alex Pazzuelo, Amazonas State Government Communications Agency

Labor conditions in Brazil and Brazilian electronics industry – general outlook

Working conditions in Brazil generally are seen as poor. Brazil is one of the worst countries for work-related accidents and severe labour abuse exists. In spite of successful government programs, slave labor has not been completely eradicated and child labor is still a serious problem.³⁶ Research so far has not found slave labor or child labor in the Brazilian electronics industry.

Drawing up the balance, on the one hand we see stringent labor laws, well-organized unions and an active labor inspection. Offenses like excessive working hours, irregular outsourcing and inferior working conditions however have regularly surfaced in the electronics sector and suggest a structural problem. Progress has been made in recent years – even with the new Asian companies – but has proved impossible for labor inspectors to attend to all companies on a regular basis.

Further examination is needed to establish to the extent offenses are endemic in the industry and multinational companies are in conflict with their own codes of conduct. The hellish conditions known to exist in manufacturing hotspots elsewhere in the world, in Foxconn's Chinese factories for example, have not surfaced in Brazil. Indeed, Brazilians working in the field of labor conditions in the electronics industry sometimes state that, despite all problems the Brazilian experience – the laws, public inspection and work of civil society – can serve as inspiration for other countries. Luis Carlos de Oliveira, vice president of Metalworkers Union of Jundiá, in 2012 even named Foxconn Brazil as an exemplary company. Foxconn's Brazilian facilities were safe, he said, its workers received decent wages, labor laws were respected, as was union representation. His union had its bouts with the company, Oliveira said, but legitimate union representation coupled with tough local labor laws prevented the sort of abuses found at Foxconn's factories in China.³⁷

At the same time large multinational companies like Foxconn within Brazil have created a certain amount of misgiving in regards to their loyalty towards the country in which they enjoy so many privileges. Poor labor conditions at their factories cause illnesses and accidents, but in Brazil it is not the company that is responsible for the costly consequences. "Samsung receives tax benefits and transfers all that labor liability to INSS – the Brazilian social security agency that supports workers on leave for health reasons – labor prosecutor Ilan Fonseca says, "it burdens the State twice", Another misgiving is that massive tax-cuts have widened government budget deficit but investments promised in return often didn't materialize.

In Foxconn-Brazil's mission statement the company expresses that it is "carries out projects of citizenship, development of young people for the labor market integration of the disabled and social campaigns in favor of the regions where entities is located", and that to Foxconn integration

36 <http://edition.cnn.com/2009/WORLD/americas/01/09/brazil.slavery/index.html?iref=allsearch> – CNN – January 9, 2009
– Government fights slave labor in Brazil +Brazil's 'dirty list' names and shames companies involved in slave labour
– Guardian – Annie Kelly – Wednesday 24 July 2013 – <http://www.theguardian.com/sustainable-business/brazil-dirty-list-names-shames-slave-labour>, and: <http://www.dol.gov/ilab/reports/child-labor/brazil.htm>

37 <http://www.cnet.com/news/could-foxconns-factory-in-brazil-be-a-model-for-apple-production/> – Could Foxconn's factory in Brazil be a model for Apple production? by Jay Greene – April 11, 2012

in the community is of great importance.³⁸ The reality is that Foxconn's promised USD 12 billion investments so far is nothing but a mirage. Access to training and advancement opportunities, another promise, are non-existent. High-quality jobs are rare.³⁹ Retail prices of Apple's products were promised would decrease substantially, the company vowed upon coming to Brazil. However, Brazilian-made iPhones prices are among the highest in the world, which puts them out of the reach of Brazil's working poor, and most of its own employees would struggle to come up with the money, since many of the jobs created by Foxconn pay little more than minimum wage.^{40 41} MNC's reap the benefits offered, but in their policies the society that welcomes them is of no importance, it is said.⁴²

When layoffs were announced at LG-Electronics in Taubaté in 2012 a representative of the union expressed exactly this sentiment: "We cannot forget that this company has received numerous incentives from the Government to settle in Taubaté, including one of the largest areas of donations ever made in the city. It's time to show respect to the people of Taubaté and fulfill its commitment to create jobs."⁴³

38 <http://foxconn.com.br/Historia.aspx>

39 Appleinsider.com, Foxconn angers Brazilian officials with slow manufacturing ramp-up, Monday, April 13, 2015, <http://appleinsider.com/articles/15/04/13/foxconn-angers-brazilian-officials-with-slow-manufacturing-ramp-up>

40 Reuters – Mon Apr 13, 2015 – Brazil's iPhone investment falls short on promises of jobs, lower prices, by Brad Haynes

41 Eric Ehrmann – High Flying Apple Hits Turbulence In Brazil, Foxconn's Gou Calls Workers 'Animals' – 07/02/2012 – http://www.huffingtonpost.com/eric-ehrmann/apple-brazil-foxconn_b_1463666.html + <http://g1.globo.com/tecnologia/noticia/2014/11/apple-vende-no-brasil-os-novos-iphones-mais-caros-do-mundo.html>

42 o Estadão.com, Samsung e LG desistiram de novas fabricas, 19-01-2015 <http://economia.estadao.com.br/noticias/geral,samsung-e-lg-desistiram-de-novas-fabricas-no-brasil-imp-,1621698>

43 <http://www.redebrasilatual.com.br/trabalho/2012/02/metalurgicos-da-lg-de-taubate-aprovam-estado-de-greve>
Metalúrgicos da LG de Taubaté aprovam estado de greve, Empresa ameaça cortar efetivo, alegando excesso de funcionários por Redação da RBA publicado 02/02/2012 17:58, última modificação 03/02/2012 10:51

Colophon

Brazil, the new manufacturing hotspot for electronics? August 2015

| | |
|---------------------|---|
| Author | Hans van Wetering, Marcel Gomes & Irene Schipper (SOMO) |
| Published by | GoodElectronics |
| Design | Studio Annelies Vlasblom – www.anneliesvlasblom.nl |
| Layout | Frans Schupp – www.fransschupp.nl |



This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivs 4.0 Unported License.



EU

This publication has been produced with the assistance of the European Union. The content of this publication is the sole responsibility of SOMO and can in no way be taken to reflect the views of the European Union.



SOMO

The Centre for Research on Multinational Corporations (SOMO) is a non-profit Dutch research and advisory bureau. SOMO investigates the policies of multinational enterprises and the internationalisation of business worldwide. www.somo.nl



Repórter Brasil

NGO Reporter Brazil was founded in 2001 by journalists, social scientists and educators in order to promote reflection and action on the violation of the fundamental rights of people and workers in Brazil. The organization has become one of the most important sources of information on human rights and environmental violation in the country. Its reports, journalistic investigations, research and educational methodologies have been used by the government leaders, business sector and civil society as tools to combat modern-day slavery, a problem that still affects thousands of people in Brazil.

This report is based on the mapping study on the electronics sector made by Repórter Brasil in assignment of SOMO and GoodElectronics. This mapping study is done in preparation for an in-depth field research which will be conducted by SOMO and Repórter Brasil in the summer of 2015. In the context of this in-depth field research SOMO will conduct interviews with management of companies mentioned in this report to further investigate the issues as described in this paper.

The GoodElectronics Network accommodates networks, organisations and individuals that are concerned about human rights, including labour rights, and sustainability issues in the global electronics supply chain, including but not limited to trade unions, grass roots organisations, campaigning and research organisations, academia, and activists. The Network has a strict civil society-only profile.

Bibliography

Bibliography Tavares, Walkyria M. Leitão. A indústria eletrônica no Brasil e seu impacto sobre a balança comercial. Study launched by the Brazilian Congress. 2001. Available at <http://www2.camara.leg.br/documentos-e-pesquisa/publicacoes/estnottec/arquivos-pdf/pdf/108604.pdf>

Diagnóstico do Arranjo Produtivo da Indústria do Vale da Eletrônica. Federação das Indústrias do Estado de Minas Gerais. 2007. Available at <http://www.fiemg.org.br/admin/BibliotecaDeArquivos/Image.aspx?ImgId=25018&TabId=11922&portalid=238&mid=27747>

Greater Brazil Plan, Report 2011-14, Govern of Brazil. Available at <http://www.brasilmaior.mdic.gov.br/images/data/201411/f97a72083144d28b26013b7261e7e06b.pdf>

Gutierrez, Regina Maria Vinhais. Complexo eletrônico: Lei de Informática e competitividade. BNDES Setorial 31, p. 5-48, 2010. Available at <http://www.pedbrasil.org.br/ped/artigos/A864C4DD910AFFAA.pdf>

Report A Indústria em Número. Brazilian Industrial Confederation (CNI). May, 2015. Available at http://arquivos.portaldaindustria.com.br/app/cni_estatistica_2/2015/02/11/165/INDUSTRIA_EM_NUMEROS_mai2015_mobile.pdf?r=0.45080128177

Jorge, Marina; Dantas, Alex. Investimento estrangeiro direto e inovação: um estudo sobre ramos selecionados da indústria no Brasil. Anpec Meeting 2008. Available at <http://www.anpec.org.br/encontro2008/artigos/200807211355590-.pdf>

Report Manual de Apoio aos Arranjos Produtivos Locais. Ministry of Development, Industry and Foreign Trade. 2006. Available at http://www.mdic.gov.br/arquivos/dwnl_1199885181.pdf

Andrade, Ilse Baumegeger Silveira de. Processo Produtivo Básico (PPB). 2014. Article available at <http://www.liraa.com.br/conteudo/2562/processo-produtivo-basico-ppb>

Petry, Rodrigo. Brasil assume 3º lugar na venda mundial de computador. Newspaper O Estado de S. Paulo. 2011. Available at <http://economia.estadao.com.br/noticias/negocios,brasil-assume-3-lugar-na-venda-mundial-de-computador,80422e>

Ferreira Filho, Manoel Gonçalves. Curso de Direito Constitucional. 35ª Edição – São Paulo, Saraiva, 2009.

Silva Neto, Manoel Jorge e. Proteção Constitucional dos Interesses Trabalhistas – Difusos, Coletivos e Individuais Homogêneos. São Paulo: LTr Editora, 2001.

Logística Reversa de Equipamentos Eletroeletrônicos – Análise de Viabilidade Técnica e Econômica. Brazilian Agency for Industrial Development – ABDI. 2013. Available at http://www.mdic.gov.br/arquivos/dwnl_1367253180.pdf

Bampi, Sérgio (coordenador). Perspectivas do investimento em eletrônica. Rio de Janeiro: UFRJ, 2008/2009. Available at http://www.bndes.gov.br/SiteBNDES/export/sites/default/bndes_pt/Galerias/Arquivos/empresa/pesquisa/pib/pib_eletronica.pdf

Brazil Blazes Path for Latin American Markets – October 19, 2011, <http://www.intelfreepress.com/news/brazil-blazes-path-for-latin-american-markets/158/> and <http://www.abinee.org.br/abinee/decon/decon15.htm>

<http://www.pedbrasil.org.br/ped/artigos/A864C4DD910AFFAA.pdf> /

http://arquivos.portaldaindustria.com.br/app/cni_estatistica_2/2015/02/11/165/INDUSTRIA_EM_NUMEROS_mai2015_mobile.pdf?r=0.45080128177

<http://economia.estadao.com.br/noticias/negocios,brasil-assume-3-lugar-na-venda-mundial-de-computador,80422e>

<http://www.teleco.com.br/pais/celular.asp>

The Brazil Business – Egil Fujikawa Nes – 10 September 2012 – <http://thebrazilbusiness.com/article/manaus-free-trade-zone>

PC Business in Brazil – An overview – 28 december 2012, pavanvvyas – <http://www.slideshare.net/pavanvvyas/pc-business-in-brazil-an-overview>

<http://www.aomevents.com/media/files/ISS%202012/ISS%20SESSION%208/Montanari.pdf>

BMI Research – Brazil's Local Technology Manufacturing Risks and Rewards Finely Balanced – Brazil | Information Technology | Mon Jun 15, 2015

Plano Nacional de Banda Larga in Brazil – Egil Fujikawa Nes – The Brazil Business – 28 March 2013, at: <http://thebrazilbusiness.com/article/plano-nacional-de-banda-larga-in-brazil>

<http://www.abinee.org.br/ing/informac/decon.htm>

Brazil Blazes Path for Latin American Markets – October 19, 2011, at: <http://www.intelfreepress.com/news/brazil-blazes-path-for-latin-american-markets/158/>

<http://www.brasilmaior.mdic.gov.br/images/data/201411/f97a72083144d28b26013b7261e7e06b.pdf>

<http://www.liraa.com.br/conteudo/2562/processo-produtivo-basico-ppb>

BMI Consumer Electronics Report, Brazil Consumer Electronics Report, July 1, 2015

The Brazil Business – Egil Fujikawa Nes – 10 September 2012, at: <http://thebrazilbusiness.com/article/manaus-free-trade-zone>

<http://www.anpec.org.br/encontro2008/artigos/200807211355590-.pdf>

<http://www.baguete.com.br/noticias/10/06/2015/emc-fabrica-xtremio-no-brasil>

Foxconn says looking at investment opportunities in Brazil, by Jonathan Standing, Argin Chang and Faith Hung, at:

<http://www.reuters.com/article/2011/04/13/us-brazil-foxconn-idUSTRE73B6BD20110413>

<http://foxconn.com.br/Historia.aspx>

Common Benefits in Brazil, Andréa Novais, The Brazil Business, 17 December 2013 – <http://thebrazilbusiness.com/article/common-benefits-in-brazil>

Eric Ehrmann – High Flying Apple Hits Turbulence In Brazil, Foxconn's Gou Calls Workers 'Animals', 07/02/2012, at:

http://www.huffingtonpost.com/eric-ehrmann/apple-brazil-foxconn_b_1463666.html

Metalúrgicos da LG de Taubaté aprovam estado de greve – 02/02/2012, at: <http://www.redebrasilatual.com.br/trabalho/2012/02/metalurgicos-da-lg-de-taubate-aprovam-estado-de-greve>

Mais de 20 viaturas da PM atiram contra greve em Betim, at: [http://www.vermelho.org.br/noticia/14324-8 – 20 de março de 2007](http://www.vermelho.org.br/noticia/14324-8-20-de-março-de-2007) – <http://www.abinee.org.br/ing>

<http://www.abinee.org.br/ing/abinee/associa/emptl.htm>

<http://www.brasil.gov.br/economia-e-emprego/2014/02/estudo-sobre-logistica-de-residuos-eletronicos-e-divulgado>.

Complete study available at http://www.mdic.gov.br/arquivos/dwnl_1362058667.pdf

Funcionários da Foxconn entram em greve no Brasil -Por Redação Olhar Digital, 15/09/2014, at:

<http://olhardigital.uol.com.br/pro/noticia/funcionarios-da-foxconn-entram-em-greve-no-brasil/44117>

Foxconn de Jundiá pode entrar em greve na semana que vem – 26 de abril de 2012, at:

<http://www.techguru.com.br/foxconn-de-jundiai-pode-entrar-em-greve-na-semana-que-vem/>

Greve ameaça produção da Foxconn em Jundiá – Jornal de Jundiá, 25/04/2012, at:

http://portaljj.com.br/interna.asp?Int_IDSecao=3&Int_ID=176018

Trabalhadores da montadora de produtos da Apple entram em greve no Brasil – Por Bruno Micali – 24 abr 2015 –

<http://www.jj.com.br/noticias-14410-funcionarios-da-foxconn-i-entram-em-greve>

O Estado de S.Paulo, Assédio moral assombra a LG – Paula Pacheco – 8 de fev de 2010, at: <http://www.estadao.com.br/noticias/geral,assedio-moral-assombra-a-lg,507902>

Foxconn chairman likens his workforce to animals, in: We Want China Times -Knowing China through Taiwan, 2012-01-19, at: <http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20120119000111&cid=1102&MainCatID=0>

http://www.tst.jus.br/noticia-destaque/-/asset_publisher/NGo1/content/foxconn-brasil-e-absolvida-de-indenizar-empregado-por-declaracao-de-presidente-mundial-da-empresa-2012

Brazilian Employment Law in a Nutshell –Andréa Novais – The Brazil Business – 15 May 2012, at:<http://thebrazilbusiness.com/article/brazilian-employment-law-in-a-nutshell> and <http://www.old.apcefrs.org.br/jb/2009/outubro/09.pdf>

http://acritica.uol.com.br/noticias/manaus-amazonas-amazonia-Ergonomia-trabalho-muitas-falhas-medico-entrevista-Hudson_Araujo-economia-dinheiro-empregos_0_1109889013.html

<http://www.sec-audit.com/por/main.asp>

CNN – January 9, 2009 – Government fights slave labor in Brazil +Brazil's 'dirty list' names and shames companies involved in slave labour, at: <http://edition.cnn.com/2009/WORLD/americas/01/09/brazil.slavery/index.html?iref=allsearch>

<http://www.theguardian.com/sustainable-business/brazil-dirty-list-names-shames-slave-labour> <http://www.dol.gov/ilab/reports/child-labor/brazil.htm> – June 24, 2013

Could Foxconn's factory in Brazil be a model for Apple production? by Jay Greene – April 11, 2012, at: <http://www.cnet.com/news/could-foxconn-factory-in-brazil-be-a-model-for-apple-production/>

Appleinsider.com, Foxconn angers Brazilian officials with slow manufacturing ramp-up, Monday, April 13, 2015, at: <http://appleinsider.com/articles/15/04/13/foxconn-angers-brazilian-officials-with-slow-manufacturing-ramp-up>

Reuters – Mon Apr 13, 2015 – Brazil's iPhone investment falls short on promises of jobs, lower prices, by Brad Haynes, at: <http://www.reuters.com/article/2015/04/13/us-foxconn-brazil-apple-insight-idUSKBN0N40CP20150413>

<http://g1.globo.com/tecnologia/noticia/2014/11/apple-vende-no-brasil-os-novos-iphones-mais-caros-do-mundo.html>

o Estadão.com, Samsun e LG desistiram de novas fabricas, 19-01-2015, at: <http://economia.estadao.com.br/noticias/geral,samsung-e-lg-desistiram-de-novas-fabricas-no-brasil-imp-,1621698>

[http://www.redebrasilatual.com.br/trabalho/2012/02/metalurgicos-da-lg-de-taubate-aprovam-estado-de-greve – Metalúrgicos da LG de Taubaté aprovam estado de greve, Empresa ameaça cortar efetivo, alegando excesso de funcionários, 02/02/2012](http://www.redebrasilatual.com.br/trabalho/2012/02/metalurgicos-da-lg-de-taubate-aprovam-estado-de-greve-Metalúrgicos-da-LG-de-Taubaté-aprovam-estado-de-greve,-Empresa-ameaça-cortar-efetivo,-alegando-excesso-de-funcionários,-02/02/2012)

<http://www.abinee.org.br/ing/informac/decon.htm>

<http://exame.abril.com.br/economia/noticias/brasil-fica-em-5o-como-destino-de-investimentos>.

<https://economics.rabobank.com/publications/2014/january/brazils-social-challenges/>

<http://www1.folha.uol.com.br/mercado/2014/08/1502977-produzir-no-brasil-e-23-mais-caros-do-que-nos-eua-de-acordo-com-estudo.shtml>



Goodelectronics
Sarphatistraat 30
1018 GL Amsterdam
The Netherlands

+31 20 639 12 91
info@goodelectronics.org
www.goodelectronics.org

