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SUB: Revision Required for India's Recently Announced Semiconductor Policy Because Some Developed Countries Are Investing Manyfolds Compared To India's Semiconductor Policy.

July 30 2022, San Jose, CA, USA

To

1. Hon'ble PM of India
2. Ministry of Electronics and Information Technology
3. Ministry of Defense
4. Ministry of External Affairs
5. Ministry of Education, Skill Development and Entrepreneurship
6. Ministry of Labor and Employment
7. Ministry of Micro, Small and Medium Enterprises
8. Ministry of Statistics and program Implementation
9. Ministry of Chemicals
10. Ministry of Jal Shakthi
11. Ministry of Mines
12. Ministry of Heavy Industries and Public Enterprises
13. Ministry of Power and Renewable Energies
14. Ministry of Home Affairs
15. Ministry of Law and Justice
16. Ministries related to Gati-Shakti(like Railways, Ships, Civil Aviation, Road Transport, Water-ways etc.)
17. Ministry of Information and Broadcasting
18. Expert Translators of languages in the Central Government
19. To whoever else it may concern,

Dear Respected Sir/Madam,

Namasthe. My sincere thanks to your Central government for striving to develop India on par with developed countries. I admire the audacious dream of raising the Indian living standards with a number of policy reforms like National Education Policy, Startup India, Skill India, Agnipath, Gati-Shakthi, Gift City, Mission Karmayogi, GEM, JAM Trinity etc.

**Suggestion:** In order for India to compete in the 21st century Industrial revolution 4.0, there is a need to sufficiently review, revise and upgrade the recently announced India's

Semiconductor policy(especially Chips2Startup program) *because some developed countries are investing manyfolds compared to India's recently announced Semiconductor policy.* Therefore the recently announced India's Semiconductor policies must be sufficiently reviewed, revised and upgraded because it is a long-term plan in itself similar to and in parallel to the India's High-speed Railways projects.

## Detailed Explanation of the above suggestion/request for revision:

Since the announcement of $10 billion PLI by India's Central Government towards the establishment of semiconductor manufacturing units in India, few developed countries like South Korea, Taiwan and USA also announced their semiconductor plans each worth well over $100 billion US dollars.

1. South Korea alone is going to invest around $450 billion US dollars and also increase their semiconductor workforce by around 100,000 in the next few years. They expressed their intent to setup around 11 plants in USA over the next 10 years.
2. Taiwan's TSMC is planning to invest around $100 billion US dollars setting up their commercial semiconductor plants in Japan and USA.
3. You may know recently USA also signed their 'Chips Act' of around 280 billion US dollars for investing in the production and research of semiconductor, quantum and other such nano-technologies.
4. China is planning to invest more than $1000 billion US dollars in the next 5 to 10 years. Yes sir, they are going to invest over a Trillion US dollars in the research and production of semiconductor and other nano-technologies like quantum computing, spintronics etc.
5. In 2021, Japan instantly approved around 7 billion dollars for manufacturing semiconductors in their country. They are also partnering with USA for research in semiconductor and nano-technologies.

Thus since the announcement of India's semiconductor policy and PLIs in 2021, there have been many international disruptions in the semiconductor industry with the announcement of national policies and bilateral engagements by various developed countries like USA, South Korea, Taiwan, Japan, Germany, Netherlands etc. Therefore please kindly motivate the policy making bodies of the concerned ministries of the Central Government of India to revise/upgrade India's own semiconductor policies including but not limited to the development & research of semiconductor raw materials, machineries/equipment, foreign policies, supply chains & logistics and skilled work-forces.

In this letter, I am going to detail just one revision example related to the revision of India's skilled-workforce targets over one decade. For rapid progress of semiconductor ICs and electronics (especially IT, transportation systems, robotics, drones, home appliances etc.) industry in India, India must produce skilled work-forces proportional to the population of India. If South Korea with a population of just 5.8 crores announced their plan to increase their semiconductor/electronics work-force by

100,000(one lakh) this decade, then India with a population of around 140 crores must increase the semiconductor/electronics skilled work-force by 24 lakhs over the same period. The Chips2Startup(C2S) program announced by your Central Government is only about 85,000 skilled work-force for 5 years which is a meagre number compared to the requirements of a country like India with a population of around 140 crores comparable to the population of China which had a GDP of over 17 trillion US dollars in 2021.

*Another statistic, USA has a population of 33 crores and they still recruit 85,000 skilled immigrant workers in just one year though their H1-B visa program alone. On top of that, every year USA also offers O1, L1 and other such visas to highly-skilled workers in addition to their H1-B visa program.* Therefore the numbers of India's skilled human resources must be increased drastically proportional to the population of India to account for the poaching brain-drain by the semiconductor and electronic projects announced by the developed countries. Thus in my view, even now India is missing much required skilled human resources for the semiconductor/microchip manufacturing businesses, effective foreign policy etc. Therefore increasing the number of universities and their global rankings must be a primary focus of India's Intellectuals, Indian Governments (at center and states) and NGOs now so that India also has the choicest man-power to work not only on latest sciences and technologies but also social and political reforms ultimately improving the overall standard of living of all. For those who can't pursue studies at Universities, there must be enough number of vocational colleges teaching them 21st century job skills so they either provide their services or start their own trades.

Universities are like nurseries of orchard saplings. When seeds (students) go to the nurseries (Universities), they may all sprout. And just as seeds sprout and grow to yield food with lots of fertilizers and pesticides, the youth sprouted must grow with all the nutrition and vaccinations to yield tangible results of the development for nation. The richest farmer (corporation of the foreign developed country) will pay lots of price for the saplings because he is in a hurry to get them into his farm (foreign developed nation). Once he's done taking as many as he could plant, the rest of saplings with degrees are left-overs and must struggle willingly in the environments where they get planted. Thus, similar to world-class products being produced by world-class high-tech machinery, world-class intellectuals get created due to world-class universities. And when there are many of them proportional to the population of India, definitely India will emerge as a semiconductor/electronics superpower of Industrial Revolution 4.0

Simply, Agnipath model may be applied for at least a decade producing every year 4 times as many Indian Foreign Service (IFS) diplomats similar to India's Armed Forces. Entire South Asia's economy revolves around easy money like farming, mining, imported machinery, foreign loans and imported raw materials for industries etc. Thus India's foreign policy must mature out of exporting food, minerals and visa slaves to generate foreign reserves for importing weapons, industrial raw materials, gadgets and machines. For that India requires best tech & financially savvy RAW and Indian Foreign Service personnel with 21$^{st}$ century mindset of Industrial Revolution 4.0 because they wield influence on the policy-making bodies/departments of Central and State Governments of India.

As discussed above (in the previous page), 85000 Chip engineers and scientists for the entire duration of Chips2Startup(C2S) program is too less for India with around 900 million youth below 35 years of age. *Agnipath model of Human Resources recruitment and terminations must be applied for at least a decade producing every year at least 1 lakh Electrical, Electronics and Computer Engineers well versed with cutting-edge technologies so that there is a constant flow of engineers available to tap for both established companies as well as startups every single year*. We must all ask which is better, unemployed-uneducated youth or unemployed-educated youth in India or any country in South Asia with around 2000 million people? As many in a country as possible must be educated in graduate and post-graduate degrees. Unemployed post-graduates are least worry to a country and majority may ultimately strive to be entrepreneurs, join civil services, armed forces, start NGOs, become politicians, professors, go to foreign countries etc. ensuring South Asia will also develop on par with East Asia if not Western Europe or North America.

Such small countries like Taiwan, Korea, Japan or Singapore doing such wonders in technologies and India or Pakistan with their vast populations cannot do the same even with so called literacy and great religions. South Asian Governments only concentrated on basic literacy for so long and have not been paying as much attention to the tertiary studies at Universities of sciences, technologies, engineering, medicine etc. Due to inadequate number of universities with world standards, the number of South Asian startups, innovation and patent filings are way too less compared to East Asia let alone Europe or Nations of European Settlers. According to 2022 US News report of Best Global Universities Rankings, here is how South Asia compares to East Asia with respect to the number of world ranked universities in Sciences, Technologies, Engineering, Mathematics, Medical sciences etc.

India(93)+Pakistan(17)+BanglaDesh(1)+Sri Lanka(2)+Nepal(0)+Bhutan(0)+ Afghanistan(0)=113

China(309)+Japan(111)+S.Korea(58)+Taiwan(33)+Thailand(13)+Vietnam(5)+Singapore(4)=533

South Asia having a population of around 2000 million people has only 113 world ranked universities while East Asia and Pacific with over 2200 million people has over 533 world ranked universities and Europe with just over 750 million people has around 638 world ranked universities as per 2022 US News report of Best Global Universities Rankings. Innovation, Patents and startups appear to be directly proportional to the number of universities with world standards. Every Indian citizen must understand what is meant by A KNOWLEDGE-BASED ECONOMY and its IMPLICATIONS ON GLOBALIZATION. Same amount of metals in kitchen utensils gives less profit than a car or a smartphone. The difference is knowledge used to make a car, a micro-chip or a smartphone or other such high-tech product. The same weight of a bag of delicious chips gives more profit than same weight of potatoes. That's the power of KNOWLEDGE-BASED ECONOMY.

Thus in order for India to rise as a Knowledge-Based Economy, an environment needs to be created and acted upon to start indigenous multi-national giants in the fields of semiconductors, electronics, defense systems, software, pharma etc. In order to create that environment, we must always remember that, humanity going forward is not about few bygone scientist demi-gods, few cricketers,

few celebrities, few unicorns, few business families, few Padma awardees etc., it's about how many think and agree on how to live life by sacrificing comforts for few years. It costs anywhere between 5 to 25 billion dollars over a period of time to buy some machines, invent remaining machines with export control (China and USA do not sell India all machines) to run a microchip plant in India. In future, it may happen that nobody may even sell the manufacturing equipment like they don't sell equipment to make weapon systems or rockets anymore outside country. Only if many intellectuals from politics, news media, universities and businesses agree then it is possible to start construction and keep improving a microchip plant/company until it can compete with companies like TSMC, Samsung, SMIC, INTEL etc. If a politician gets on stage and says India will start microchip company by spending 25 billion US dollars that provides jobs to few crores of people, people should be able to understand it just like farmer schemes, free-food schemes, women schemes or medical subsidies etc. Thus, an environment of Knowledge-based economy needs to be created and acted upon to revolutionize India first in terms of technologies required for Industrial Revolution 4.0

In this letter, I wrote only about the importance of skilled work forces of Indian Foreign Services, RAW and semiconductor field. There may be few other points which could be brainstormed by the policy making bodies of the concerned ministries of the Central Government of India to revise/upgrade India's semiconductor policies including but not limited to the development & research of semiconductor raw materials, machineries/equipment, foreign policies, supply chains & logistics and skilled work-forces. *Similar to GST and Smart City Mission meetings, may be it is time to bring together many State Government ministries for Competitive and Co-Operative Federalism in the manufacture of semiconductors and electronics which ultimately improves the standard of living for all.*

My life is lost due to the incompetence of India's Foreign Services and RAW since at least 2005. If there were enough Universities in India, I wouldn't be stuck in USA's Silicon Valley of California inflicted with physical, mental and social disabilities. I ask no special favors from you, your Government or your political party because you all still cannot provide support to that far-off last-mile Indian youth suffering in those so called developed foreign countries, either West or East, filled with the venom of racism and bigotry against the people of color from tropical countries with year-long sun-light, vast oceans and abundant natural resources. If only India became better in the last 74 years after Independence like Japan, Germany, Taiwan, S.K. or Singapore, what would have been the chances of any Indian dignitary soliciting other nations for saving Indian peoples from poverty, terrorism and its adverse effects (including deaths)? What would have been the chances of any Indian settling in USA, UK, France, Canada, Australia, Switzerland seeking their Citizenship? What would have been the chances of any corrupt Indian parent to be leeching enough money to send his own children to settle in foreign countries? Even after their children settle abroad, what would have been the chances of any corrupt Indian Parent to be looting the country so his children and grand-children could buy houses and live in luxury in those foreign countries? If only India developed like Japan, Germany, Taiwan, SK or Singapore…

Right now the Make in India appears to be only about FDIs in the country without regards to development of indigenous talent pool by drastically increasing the number of universities in India on par with USA, China, Germany, UK, South Korea, Taiwan or other developed nations. Due to lack of highly educated man-power, foreign countries are being involved in many high-tech projects of trains, cars, smartphones, computers, laptops, gadgets, roads, airports, medicines, social-media, e-commerce etc. India-led & India-owned Development is required. Therefore, irrespective of whatever the Governments doing, the intellectuals in India (and all other nations in colored Asia) must strive to quickly nurture as many world-class universities as possible so that their Youth may spend their time, their University fees and expenses in the respective countries. Getting jobs in world-famous MNCs, see how happy young Indian youth are? Imagine every university and every high school student in India has access to super-computers so they could research and may be spark entrepreneurial ideas similar to Microsoft, Facebook, Google, Intel, TSMC, Alibaba, Tencent, Xioami etc. Then how happy they will be and how happy lakhs of other youth working in those Indian MNCs with be. Therefore let's dream of a future for India when all university students at every university all over India are given 247 access to a super-computer nearby so they can research on medicine, history, politics(local & international), economics, jurisprudence, forensics, mental-health, cohort analysis, global warming, climate change, biodiversity, semiconductors, latest gadgets, vehicles, fuels, AI, drones, robots, space-crafts etc.

Since it is in my own personal interest if not anyone else's grievance that all Indians are aligned towards improving standard-of-living for all, I am submitting this humble grievance/request/suggestion as a PDF document attached. Since it is in my own personal interest that India becomes a stable, harmonious, peaceful and a prosperous nation with more than 15 trillion dollar economy soon, I humbly present this suggestion for your Government's review keeping in mind the ever changing politics & economies around the world and also the breaking-India forces in the neighborhood of India and also around the world.

What I wrote is from/related to my own research and experiences. Please kindly forgive me if I said or asked for anything inconvenient, incorrect & wrong. Due to time constraints, please kindly forgive my English mistakes too.

Satyameva Jayathe!
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Note: I am not affiliated with any political party, any religion, caste, tribe, last name, pin code, language, region, media, NGO, business or any Government institution. I am still an ordinary Indian Citizen. I am not paid to write here and not seeking favors. Copy to whoever it may concern.