

# PROJECT S.H.I.E.L.D

*Prepared by*

**TAU INVESTMENT MANAGEMENT**

**Supporting workers'**

**Health through**

**Infection control measures, with attention to**

**Environmental sustainability for**

**Long-term social progress in high-**

**Density work settings**

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# Why is Tau Doing a PPE EXCHANGE?

Now more than ever, TAU is committed to improving worker conditions, starting with the health and safety of factory workers. By providing its very own PPE Exchange, TAU is carrying forward its mission of helping companies to ensure that their products are manufactured responsibly.

The COVID-19 crisis has imposed significant challenges across factory settings. This crisis is unlikely to abate in the near to mid-term, even if a vaccine is introduced in western countries.

For the foreseeable future, communities in developing countries will continue to confront infectious disease threats, including but not limited to COVID-19.

As the COVID-19 crisis has evidenced, the socioeconomic consequences of infectious disease spread can be severe. Hence the need for structural, long-term solutions capable of managing and preventing what some predict will become an “acute-on-chronic” scenario for emerging and frontier markets.

Structural, long-term solutions can be implemented only via strong multi-stakeholder collaborations, inclusive of the owners of garment manufacturing plants, the customers of garment manufacturing plants (i.e., fashion brands and fashion retailers), and government agencies at the community level. At present, brands have not focused on this.

At TAU, we believe we must act now to avoid a situation where factory workers are left behind—left more vulnerable to the health and economic consequences of uncontrolled infectious disease threats.

And while this is primarily a social responsibility call, the financial realities of inaction merit attention: Lack of meaningful action could precipitate massive supply chain disruptions, hurting the economic viability of garment manufacturers but also the performance of the fashion brands and fashion retailers they serve.

TAU recognizes that in addition to lower cost and higher quality concerns for their apparel products, consumers are increasingly demanding that global brands and retailers provide products that have been manufactured responsibly. Responsible manufacturing is becoming a high priority for global brands and retailers, and their suppliers are key to helping them deliver this value.

At TAU, we recognize that transforming manufacturers into responsible suppliers can provide a significant competitive edge to brands and retailers. We have spent a substantial amount of time and resources to develop a robust sustainability framework that ranges from improved worker conditions to reduced environmental footprint for manufacturers.

Ultimately, we believe that delivering on these social values unlocks important operational efficiencies. Along these lines, infectious disease risk management becomes an additional competitive advantage—garment manufacturers fully equipped to deliver it can achieve clear gains vis-à-vis their market peers.

# Importance of Garment-factories both Socially and Economically

The industry has served as “a steppingstone to development” in many countries. Currently, the garment industry plays this role in many lower- and middle-income countries around the world.

The Textile & Clothing industries provide opportunities for export diversification and expansion of manufactured exports for low-income countries that can exploit their labor cost advantages and fill emerging niches and meet buyer demands. There are also dynamic effects of T&C industries and these dynamic effects are greater, the more linkages have been built up between the garment industry and local textile suppliers.

At the macro level, there are a number of ways in which the T&C industries affect economic development.

- T&C industries are a major contributor to incomes for selected countries. The contribution of T&C production to GDP differs by country but is up to 5% in Sri Lanka, 12% in Cambodia, and 15% in Pakistan.
- T&C is the dominant source of exports and foreign exchange in several countries. Low income and developing countries such as Cambodia, Bangladesh, Pakistan, and Sri Lanka depend on T&C exports for more than 50% of total manufacturing exports (e.g. 80% in Cambodia, 83.5% in Bangladesh);
- The employment effects are also significant. Employment in T&C production for least developed and low-income countries as a share of total employment in manufacturing ranges from 35% in selected low-income countries, 75% in Bangladesh, and 90% in other selected LDCs (e.g. Lesotho, Cambodia).

**About 60 million to 75 million people are employed in the textile, clothing, and footwear sectors worldwide (2014).**

**This is an industry that has seen substantial growth over the last two decades.**

**To compare: in 2000, only 20 million people were employed in the industry.**

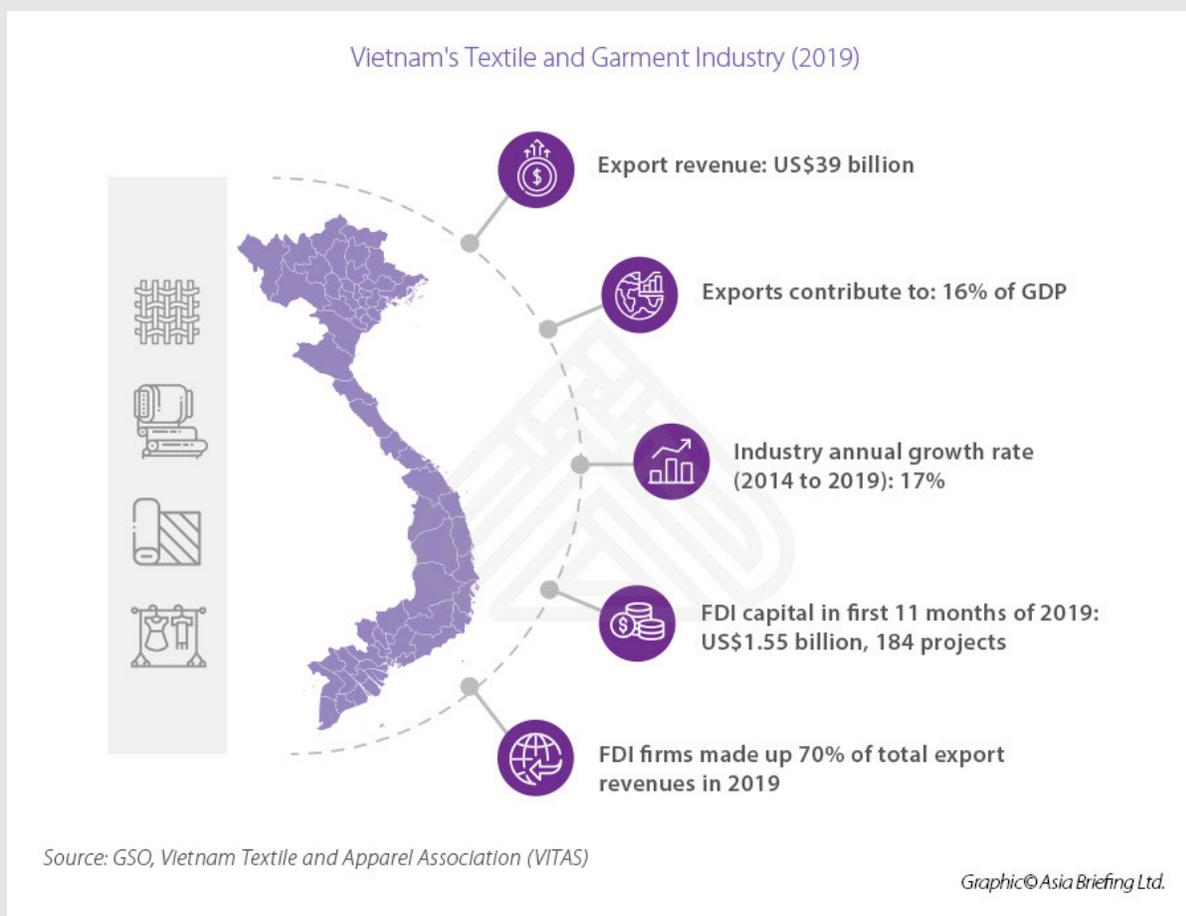
TAU's investment focus is mostly related to two major textile garment manufacturing countries, most notably Vietnam and Indonesia.

# VIETNAM

Vietnam is among the top textile producing countries and apparel exporters in the world, emerging as the most compelling alternative to China. Major factors driving industry growth are (a) growing textile exports derived from multilateral free trade agreements and (b) low labor costs. Despite rising challenges due to the COVID-19 pandemic, the industry is fast evolving to address its growth, raising optimistic prospects for recovery.

The garment and textile industry is the second-largest export turnover in the country. In 2019, the industry's export value contributed to 16 percent of the total GDP. In the past five years, the textile industry has continuously grown at an average rate of 17 percent annually.

In 2019, Vietnam's garment and textile industry earned US\$39 billion from exports, a year-on-year increase of over 8.3 percent, according to the Vietnam General Statistics Office. Garment manufacturing accounts for the majority of businesses, at 70 percent.

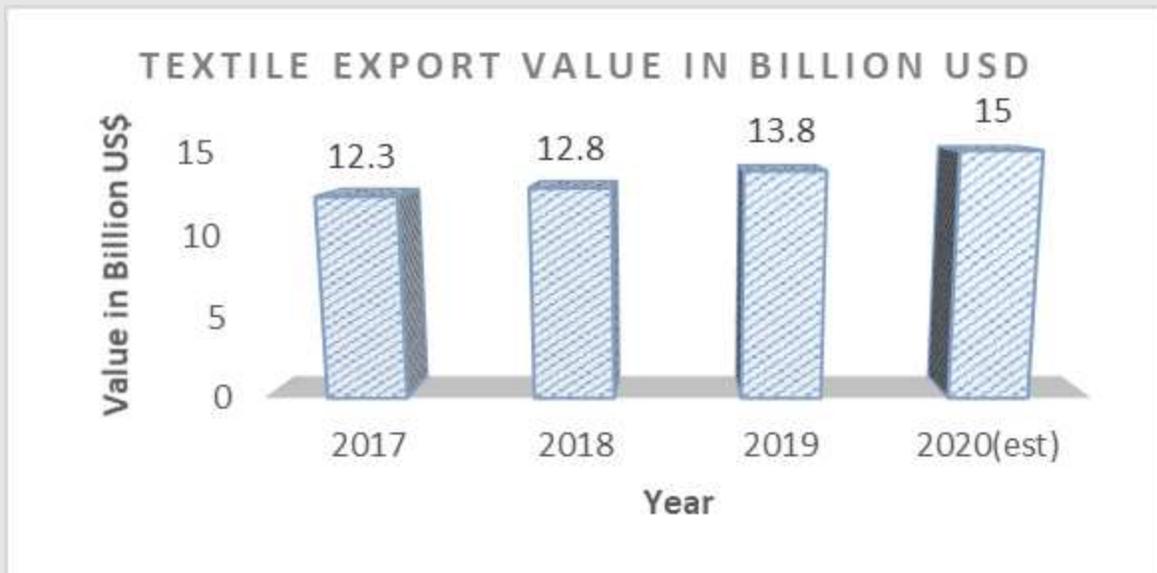


# INDONESIA

Indonesia represents another major hub of the Textile and Clothing industry. In 2019 the sector contributed 11 percent to total manufacturing exports and 5 percent to total exports. It employs 5.2 million workers.

Currently, 30 percent of Indonesia's total production is to meet domestic demand with the remainder for exports to mainly the US (36 percent), Middle East (23 percent), EU (13 percent), and China (5 percent). Indonesia's the textile and garment industry enjoyed a positive growth throughout 2019 with exports valued at US\$13.8 billion, an increase from US\$10 billion in 2018 and making the country one of the largest textile producers in the world.

The pandemic has resulted in over 2 million job layoffs across all sectors in Indonesia with exports of textiles and clothing has dropped by 30 percent in the first half of 2020.



# Neglect of Workers in High-density Settings

Workers in High-density Settings are at Disproportionate risk, They Have Been Neglected in the Larger Conversation on Covid-19.

To date, there have been serious discussions around access to healthcare, protecting the broader population, and fashion companies' efforts to produce and sell masks.

At the same time, however, as a worker in a garment factory, you either have a visionary employer, or you are entirely at risk. It's important to place focus on this specific segment and need.

There are a number of recent case studies and corollaries in the U.S., that point to the importance of these considerations. The Los Angeles apparel factory case illustrates the layers of risk at play in these work settings, even irrespective of geography. The factory was closed due to an investigation finding over 300 confirmed infections among the garment workers, and four deaths.

Similarly, the meatpacking industry in the U.S. has experienced intense waves of COVID-19 infection that have compromised worker safety and business viability. The U.S. Department of Homeland Security has declared the food production industry critical infrastructure, and has urged factory owners and customers to appreciate that "its workers must be able to operate in an environment of enhanced safety." COVID-19 cases have emerged among U.S. workers in 115 meat and poultry processing facilities—nearly 5,000 cases, including 20 deaths, among approximately 130,000 workers.

Oxfam Canada has published an interview with Kalpona Akter, executive director of the Bangladesh Centre for Worker Solidarity. Here, Akter reports that at least 50% of garment workers in Bangladesh have not been paid their wages for the month of March and that the inequality between garment workers in Bangladesh and CEO's in Canada has been made evident amidst the COVID-19 pandemic.

First Glory Apparel, a garment factory in the Mactan Economic Processing Zone (MEPZ), has also shown the COVID-19 impact as they have laid off over 300 workers due to financial losses amidst the pandemic. First Glory Group, the company which owns this factory, supplies products for brands such as J. Crew, Anthropologie, Michael Kors, Converse, and Nordstrom.

Another example is Top Glove, the world's largest latex-glove maker. Top Glove has seen record-high profits this year as demand for medical gloves and protective gear skyrocketed due to the pandemic. However, Malaysia decided to close some of Top Glove's factories in stages to screen its employees for Covid-19 after a major increase in coronavirus infections. A total of 28 factories will be closed in stages after 1,889 Top Glove workers tested positive for the virus. As of now, however, Migrant workers that work for Top Glove in Malaysia are being forced to report to work despite a mass COVID-19 outbreak in the company's factories which has already seen thousands of workers test positive. Most of the workers who contracted the virus are migrant workers from Nepal, India, and Bangladesh.

Looking ahead, existing models for tuberculosis control in factories can provide insights into useful practices for COVID-19 control. Tau seeks to draw upon these long-standing models, with an eye to deliberately improve upon those models, adapting them to the severity of the current context and structural changes required for the long term. Improvement begins with the creation of a PPE Exchange.

# The Need for Effective and Reliable PPE Sourcing Solutions

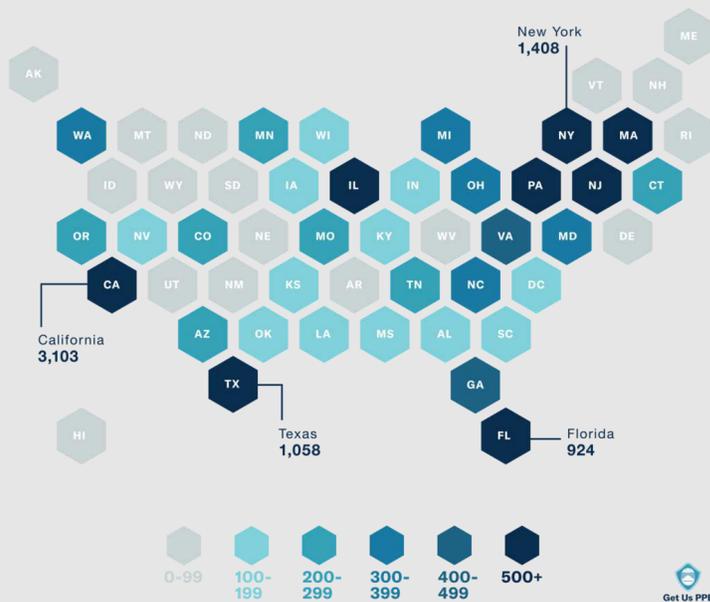
PPE sourcing of large manufacturers is mostly addressed by an unstructured and often unreliable network of providers represented by a vast range of external companies (often improvised as PPE producers), by emergency government funds, and an increasing number of PPE exchanges. See Table 6.

While the demand for PPE is exponentially increasing, the lack of structured, reliable sources of PPE, imposes to manufacturers numerous serious challenges.

## A- Increase in the PPE demand

1. According to the World Health Organization (WHO), roughly 89 million medical masks are needed each month because of the COVID-19 pandemic, while the number of examination gloves required internationally has increased by 76 million per month.

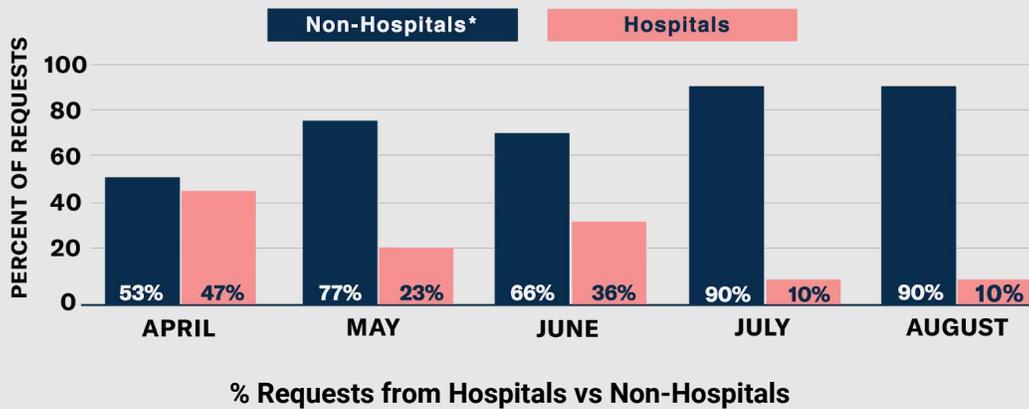
2. The WHO estimated that the manufacturing of PPE must be increased by a minimum of 40% to keep up with current demand; it has also called for an increase in production incentives and the easing of export restrictions associated with PPE restrictions.



**PPE SHORTAGE INDEX**

*This hexagon map of the United States shows the total number of individual requests for PPE received by "Get Us PPE" per state from late March 2020 through August 31, 2020. Each color represents a request-count range, with darker colors indicating more requests (see key). Increasing requests have been received from all 50 states and some U.S. territories. California, Texas, Florida, and New York were among the states with the highest number of requesters.*

# Continued...



The PPE Shortage Index for August 2020 indicates non-hospital facilities continue to have an extreme need for personal protective equipment. Factories are considered non-hospitals and thus it proves the need for more PPP in these sectors.

## B- Key Challenges

There are at least four foundational dimensions to consider:

1. Accessibility (in terms of delivery time and pricing)
2. Quality (in terms of protective performance)
3. Environmental impact (mostly in relation to the disposal of PPE)
4. Availability of comprehensive solutions offering PPE Policy deployment support beyond product trading

### Delivery time and Pricing

Much of the U.S. PPE supply is manufactured in Asia, and particularly in China. For example, as of April 2020 the US imports around 48 percent of its PPE from China with slight decreases in imports in the next few months. Data also suggests 90 percent of thermometers for the U.S. market, are made in China. The timeline from manufacturing to transport by ship to delivery to U.S. buyers can be as long as three months, according to a USA Today report. When the coronavirus outbreak began, many East Asian countries began to keep supplies within their borders, as a matter of national security, which restricted supply. Now, with U.S. demand outstripping supply, many U.S. brokers are out of stock. This makes PPP double or even triple in price.

### Poor quality and fraud

There are increasing risks of Fraud in the Industry. Since the pandemic began, 60 to 70 percent of imported KN95 masks from China do not filter 95 percent of aerosol particulates and have been reported to be defective, and falling short of the US regulatory standards.

The FBI issued alerts on March 27, 2020, and April 13, 2020, in which it described rapidly emerging fraud schemes related to the procurement of personal protective equipment (PPE).

Some ways to avoid it is by checking out:

- a. The FDA's list of authorized respirators from China
- b. The FDA's list of authorized respirators from other countries
- c. NIOSH's list of companies with NIOSH approval
- d. NIOSH's list of approved respirators

NIOSH's list of tested respirators not approved by NIOSH (make sure you only buy products with 95% or higher filtration). It should be noted that NIOSH only tested for filtration, not for fit, and did not use the tests as part of its approval process.

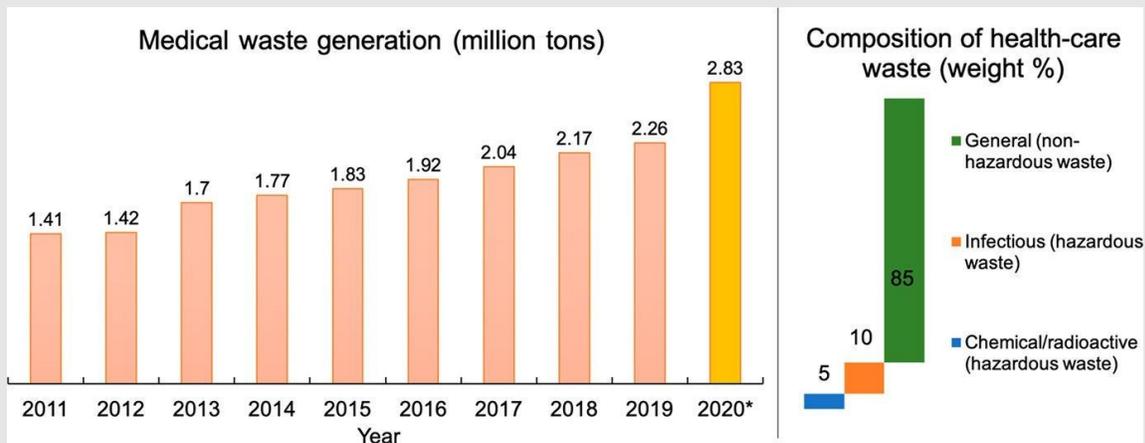
### 3- The Environmental impact of PPE disposal.

Many companies place effort and resources into being more sustainable in their clothing. And yet, these same companies contradict their actions by having employees use single-use PPE, increasing the waste on the planet. How good is an organic cotton shirt with full wastewater treatment if the worker making it throws away a mask every day that ends in the ocean, a landfill, or incinerators?

Much of the PPE used around the world is single-use by design. PPE can contain a range of different plastics such as polypropylene and polyethylene in face masks and gowns to nitrile, vinyl, and latex in gloves.

According to a WWF report, even if only 1 percent of masks are disposed of incorrectly, 10 million masks a month will end up dispersed in the environment. Another concern with the increase in PPE ocean waste is the effect of microplastics – grains of plastic that are less than 5 millimeters long – on wildlife and humans alike. According to this report, “The material composition of PPE includes plastics as major constituents representing 20–25% by weight. Ultimately, if not recycled, their disposal contributes substantially to hazardous environmental pollutants such as dioxins and toxic metals.” Going further, the report tells us that:

*“Polypropylene is a common constituent of PPEs such as N-95 masks, Tyvek protective suits, gloves, and medical face shields. Polypropylene also represents a substantial proportion of the approximately 25 million tons of plastic materials that are disposed of in U.S. landfills annually, with recovery and recycling accounting for only 3% of the polypropylene plastic generated.”*



Medical waste generation and compositions:

- In China. The quantity of waste is expected to increase by more than 25 percent in 2020.
- In the U.S., there is no national database on a medical waste generation because the Medical Waste Tracking Act (MWTA) of 1988 expired in 1991 and the U.S. Environmental Protection Agency has not had the authority, specifically for medical waste, since then.

**4- Availability of comprehensive solutions offering PPE Policy deployment support beyond product trading.**

It is critically important to recognize that PPE is of limited value without a comprehensive strategy for infection control surrounding it. The Tau program includes this surrounding strategy. Infection control protocols--including in-depth standard operating procedures for managing positive cases, and detailed best-practice guides for minimizing community spread--are essential, differentiating elements of Tau's offering. Furthermore, the Tau approach encompasses customized guidance to participating factories, grounded in protocols and attentive to real-world complexities in implementation. In our view, this kind of holistic approach can position factories to reap significant gains in terms of workforce recruitment and retention, uninterrupted operations, and attractiveness to brands.

# The Need for PPE in the Long-Term

*"How much longer are we going to be cranking out the masks? For a very long time," Ellen M.Lord said during a news conference at the Pentagon. (April 30, 2020)*

PPE demand is here to stay, even if the emergency fades when a vaccine is distributed at scale (i.e., in late 2021). The need to keep workers safe and healthy persists. When working in a garment factory in certain geographic areas, tuberculosis is already a persistent risk. A combined risk of TB and COVID-19 exposure underscores the need for PPE, now and in the long term.

Along these lines, it is important to recognize that garment factory settings are already associated with lung health impairment.

Recent studies have recognized the contribution of workplace exposures to chronic lung diseases, in particular chronic obstructive pulmonary disease (COPD). Early studies in textile workers have proven the relationship between hemp or cotton dust exposure and the development of a syndrome termed Byssinosis. This leads to an obstructive lung disease that has features of both asthma and COPD. By incorporating PPE, factories minimize the risk of dust exposure, inhalation of aerosols, and direct contact with microorganisms.

As noted previously, we need to move towards re-usable solutions that are cost-efficient and practical. The solutions need to be industry, manufacturing, and climate “appropriate.” Also, when working in circumstances such as T&C factories, budgets.

Table 5: Recommendations of personal protective clothing and equipment to be used by staff in places that pose higher tuberculosis (TB) risk.

Equipment	Potential Hazard	Safety Features
PPE coats	Contamination of street clothing	1. Coats should be used for activities where there is a low-risk of becoming infected with TB. 2.Coats usually have long sleeves and fasten in the front to cover street clothes
PPE gowns	Contamination of street clothing	1.Gowns should have long sleeves and an elasticized cuff (atleast 30 mm long) 2. Gowns should open in the back 3. Gowns should cover street clothing
Respirators	Inhalation of aerosols	1.Designs available include the N95 (United States standard) and FFP2 (European standard); full-face or half-face air purifying models;
Gloves	Direct contact with microorganisms	1. Disposable microbiologically approved latex, vinyl or nitrile

# TAU's Proposition

Most of the current PPE exchanges are designed to perform the basic functions of connecting the buyers with suppliers. In certain cases, the exchanges provide assurance of proper certification. Overall, they are expected to function as a basic marketplace. TAU aims to do more.

## Reliability

Our PPE Exchange will adhere to the industry best practices to ensure that appropriate levels of inventory are maintained at all times through our network of PPE manufacturing partners based in Southeast Asia who has a demonstrated track record of sustainable and reliable production. We will also collaborate with these partners to ensure that all products are fully certified and have obtained appropriate approvals from regulatory agencies.

## 360° Customer Services.

To further distinguish from the competitors, we provide a sustainable service. For instance, TAU will include practices of smartly disposing and recycling the PPE. According to the CDC, single-use PPE may be disposed of in the regular solid waste stream (e.g., municipal trash) as it is considered waste. However, single-use PPE cannot be recycled through conventional recycling facilities. Instead, TAU will provide a special collection bin to collect discarded PPE and send them to facilities such as Terracycle, where the waste is cleaned, melted, and remolded to make new products.

## Expertise Provider

Furthermore, TAU has a network of infectious disease experts who have in-depth knowledge of disease prevention and response. TAU will deploy our experts to any customers who need help with their prevention procedures and control any unfortunate breakouts. The recent pandemic has showcased how under-prepared the organizations are in the face of a breakout. Our experts will be on standby to assist our customers throughout the uncertainties.

These are just in the early stages. Over time, TAU will collaborate with our partners to devise new value-added services that will greatly benefit the customers. We aim to provide truly distinguished services that others have yet to offer.

	Description	Services
<b>TAU PPE EXCHANGE (TBD)</b>	<ul style="list-style-type: none"><li>• Multinational PPE exchange platform</li><li>• Offers value-added services including training, recycling, quality assurance, and subscription services.</li><li>• Wide range of products utilizing the latest technology, produced from proven manufacturers within TAU's network.</li></ul>	<ul style="list-style-type: none"><li>• Vetted manufacturers (suppliers) and buyers.</li><li>• Certification verification.</li><li>• Multinational payment processing.</li><li>• Value-added services leveraging TAU's network of infectious disease experts.</li><li>• Sustainability at the forefront of the service offerings.</li></ul>

# TAU's PPE Exchange in the Bigger Picture of the TAU Ecosystem

TAU's mission since the inception has been to transform the \$800B global apparel & textile supply chain by instilling sustainability across all aspects of the operations and providing welfare and health protection for the workforce.

To accomplish our mission, TAU has been collaborating with the manufacturers to strategize on digitization, automation, and vertical integration of the supply chain, all of which sets the foundation for unlocking a variety of sustainability values in the products, including a better working environment for the workforce.

However, the pandemic has exposed significant vulnerabilities in the labor-intensive environment such as the apparel & textile manufacturing facilities, and TAU recognizes the imperativeness to limit health risks to the laborers who are often neglected.

TAU is committed to protecting the health and wellbeing of the workforce by providing a safe environment by establishing a PPE Exchange platform. The aim of the platform is to distribute fully certified and compliant PPE products with high-performance standards to every worker throughout the apparel & textile supply chain. Also consistent with our mission of delivering sustainability values, we will collaborate with suppliers to manufacture PPEs using sustainable materials. Our network of infectious disease experts will ultimately ensure that our product and service offerings bring superior value to worker protection. We envision the PPE Exchange to reach across various labor-intensive industries that also heavily depend on the health and wellbeing of their workforce.

Workers are the core growth engine for numerous industries and therefore for the broader economy. The pandemic made us aware of the costliness of inaction towards protecting the workers. As part of our transformation strategy, TAU is strongly committed to delivering the necessary equipment services via PPE Exchange during this pandemic and beyond.