

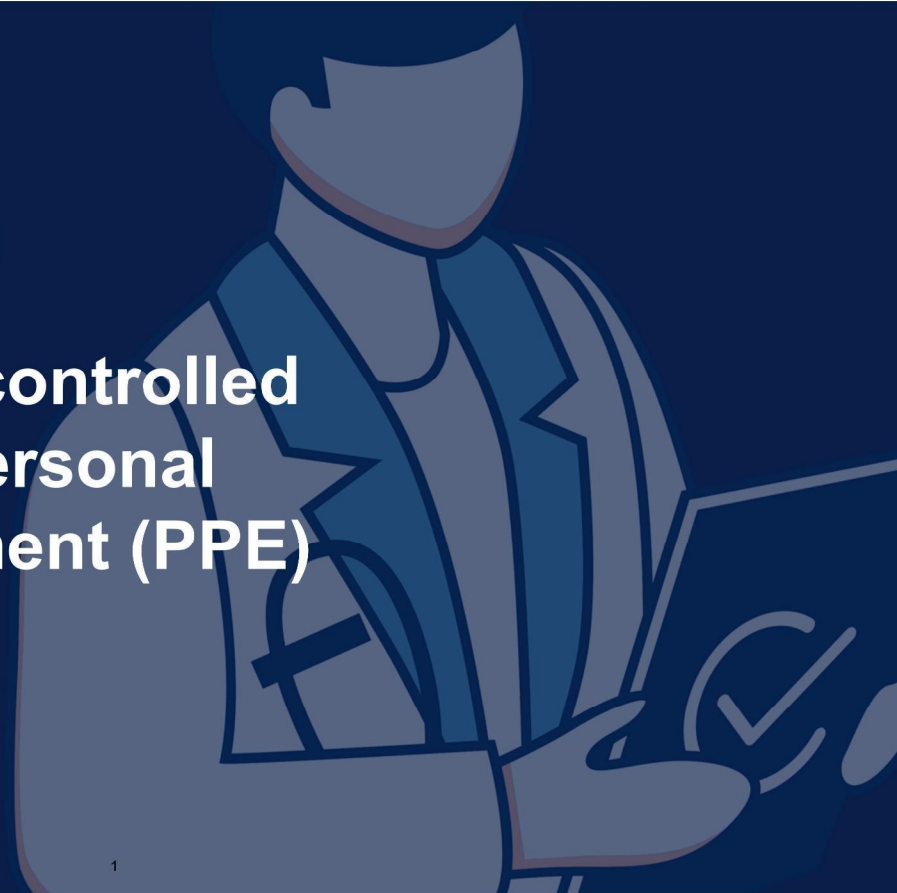
May 2020



HULPTROEPEN.NU

**For a steady and controlled
supply chain of Personal
Protective Equipment (PPE)**

Proposal for Norway



Introduction



Since the start of the COVID-19 outbreak, the world has been struggling with a shortage of Personal Protective Equipment (PPE). Several weeks ago, we came into action as we noticed that COVID-19 patients were released from hospital and cared for at their homes by health care workers without any protective equipment. One important reason? The current purchasing rigidity of government agencies (e.g. send an e-mail here, fill out standardized forms, wait a week for replies) – both in the Netherlands and in Norway.

We started this non profit initiative as a partnership with some of the Netherlands' largest and most innovative companies to create an online platform to supply non-hospital health care workers with PPE. Relief Goods Alliance Foundation provides a controlled supply chain from China to Europe, ensuring that each batch of face masks is tested. Over the past few weeks, we delivered several million high quality face masks to health care providers in the Netherlands.

As we picked up steam, the government noticed what we are doing and asked us to help out as well. In the next weeks, we'll deliver around 5.1M masks to the Dutch Government, in addition to further deliveries through our own network and online shop. All these face masks go to health care only, but an inevitable question already being raised is: what about other people and sectors in this "1,5-meters society"? We are worried that the lack of face masks and other PPE yields limitations to public policy options for controlling spread of the coronavirus. At the same time, we find that the extent to which there are "shortages", depends on how procurement is organized.

We are now at a position where our supply can be much larger than the (immediate) demand and would therefore love to supply other countries and organizations as well on a not-for-profit basis. As we have family members living in Norway, and we are reading of shortages there as well, Norway was the first country that came to our minds.

We hope that we can work together and remove any shortages in personal protective equipment, so that policy can be made freely, rather than under the restriction of severe shortages. More information can be found in this presentation.

Yours sincerely,
Team #Hulptroepen

Who we are and what we have achieved so far

We have set up a fully controlled supply chain with 100% batch testing and 50M+ pcs ordered

Non-profit, start-up style

Relief Goods Alliance is a not-for-profit organization run by a group of young entrepreneurs (15FTE by now), with the backing of some of the Netherlands' largest and most innovative companies

Controlled supply chain

Controlled door-to-door supply chain (from factory to care provider) with dedicated air bridge using large reliable Dutch Partners

100% testing capacity

Set up two testing labs (in Shanghai and Netherlands) to guarantee quality of each batch before shipment out of China. Based on equipment and testing protocol of Delft Technical University

50 Million+ ordered

Supply of government & NGOs

- NL national government
- Ministry of Justice
- Doctors Without Borders

Health care providers via (non-profit) webshop

Orders from 300pcs to 20M pcs

We have left over capacity in our supply chain and can help you source PPE at cost



flexport.



GREENCYCL



The problem

Shortages of PPE and **lack of quality**

>50%



of corona deaths in Norway in municipality healthcare segment; while this segment receives <20% of PPE

Elderly homes / In-home care / Rehabilitation

<https://www.nrk.no/norge/krever-at-kommunene-far-mer-smittevernutstyr-1.14993087>



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Procurement organizations not rigged for acting in markets with **scarce supplies** or for performing own **quality controls**

As governments allow **centrally controlled scarcity** to persist, many health care providers start looking for supplies beyond centrally controlled government distribution, with **great risk of inadequate products**.

Government purchasing teams estimate that around **30-40%** of offered PPE products meet desired quality levels. Our own tests show that e.g. the filtration quality FFP2 ranges from **10-99,9%** effectiveness (minimum requirement 95%).

Vulnerable groups unnecessarily **put in danger** as poor quality materials lead to **false sense of security**

Hot debate

Unnecessary scarcity of PPE leads to dangerous working conditions for health care workers and their patients

Så langt har ekspertene frarådet bruk av munnbind. Nå vil de vurdere om nordmenn bør læres opp i rett bruk.

Verdens helseorganisasjon (WHO) kan være i ferd med å skifte mening. Det kan føre til nye råd i Norge.



EU ber Norge vurdere bruk av munnbind på tog og i butikken. - Kan ha noe for seg, sier Nakstad.

Liv (88) har hatt besøk av over 20 ulike pleiere – uten smittevernutstyr

Dagbladet PLUS E-AVIS DEBATT INNHOLD TIPS OSS KLØP PLUS

Coronaviruset

Sykepleiere er redde

Sykehus rasjonerer bruken av smittevernutstyr.

Helse og omsorgsminister Bent Høie (H) sier at smittevernutstyr vil være rasjonert en tid fremover. Foto: Terje Pedersen / NTB scanpix

Høie: - Folk i helsevesenet vil oppleve rasjonering av smittevernutstyr

Helseminister Bent Høie (H) sier at mangelen på smittevernutstyr gjør at helsepersonell må planlegge bruken av utstyret.



Sykepleierne krever det, og nå har en norsk by snudd. Men Bent Høie snur ikke om munnbind.

NORGE

Nesten halvparten av de døde fra...
Kommune endrer munnbind-praksis etter «katastrofen» på sykehjemmet

NORGE / FOR ABONNENTER



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Second problem

Too much focus on 'quality on paper' instead of actual product quality. Scaling up requires a new approach

Known supply chains are full

Fully qualified international suppliers (all CE-certificates and licenses) are scarce, and often fully booked for months. This while 80-90% of all producers is used to produce for local markets and therefore not (fully) rigged for conforming to European (paper) standards.

Switching to local Chinese quality suppliers, combined with product testing, can replace 'paper' reality, increase volumes, and give a quality boost.

Selecting suppliers based on EC conformity all too often excludes good quality products, while not preventing inferior products from reaching Europe.

Challenge: Health inspections allow use of not fully certified products (choice is up to health provider), but government refuses to purchase.



Private parties unable to resolve shortages

Large and reliable Chinese manufacturers apply MOQs that are too high for non-governments to order (min. 20+ million units).

Lack of expertise and/or quality assurance (no possibility for testing in China).

Unfavorable conditions: high down payments, few air freight options, cash payments, commodity price fluctuations, no purchase guarantee, competition between states (rather than firms).



Min. 20 million

Continually changing circumstances result in a 'moving target'

Circumstances keep changing on a daily or even hourly basis (price, availability, export regulations).

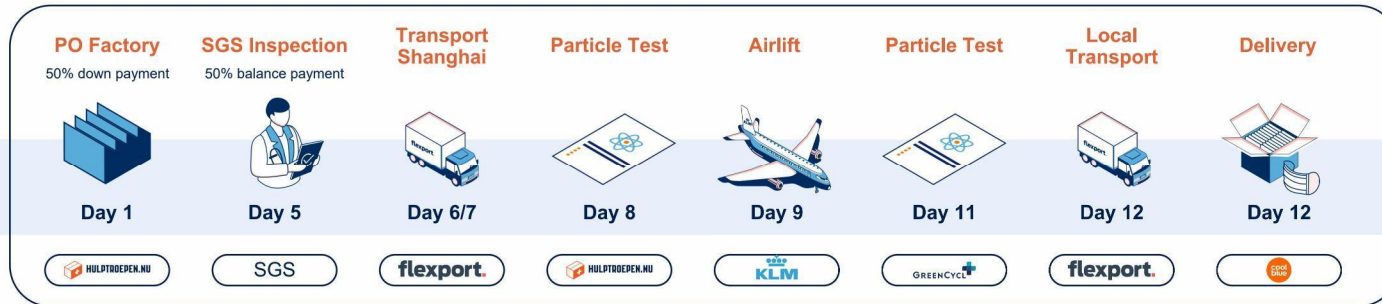
Buyers acting slowly do not just delay their "turn", but often lose it. Decisiveness and pragmatism are essential to resolve shortages.

Societal demand for PPE increases faster than Government is able to scale up under current procurement strategies (moving target).



Solution

www.hulptroepen.nu



Our partners are selected based on **quality, speed, flexibility, reliability and service:**

Deliveries month 1: 51.1c units
In order: 51.1c units

						+ 50 others
Air transport from Shanghai via direct «air bridge»	Transport, customs clearance, onboarding.	Product tests using own testing equipment		Distribution through fine-grained network	Personnel supply	And many others

Learnings

Not supply-driven work (assessment of offers), but **demand-driven work** (placing an x million unit order on the open market, requiring a price X and quality level Y)

Deals are lost because decisions are not taken quickly enough. Delivery schedules and prices change from one day to the other, and orders aren't final before a down-payment is made. As a buyer, you have to be able to decide quickly. There's no time for regular approval cycles.

Everything's about relationships. Current priority status is often the result of personal relationships between Dutch and Chinese contacts.

Through his Harvard alumni network, one of our purchasers gets linked to manufacturer's board members. This has given us priority deliveries even compared to state buyers.

Not steering based on certificates or appearance, but based on test results and inspections. Products not having applied for European certificates or their appearance is not always an indicator for reliability or quality.

Even the largest and most reliable Chinese suppliers do not always have all European certificates, because they are used to focus on the Chinese market.

Rigid requirements and processes should be replaced by flexibility, trust and entrepreneurship.

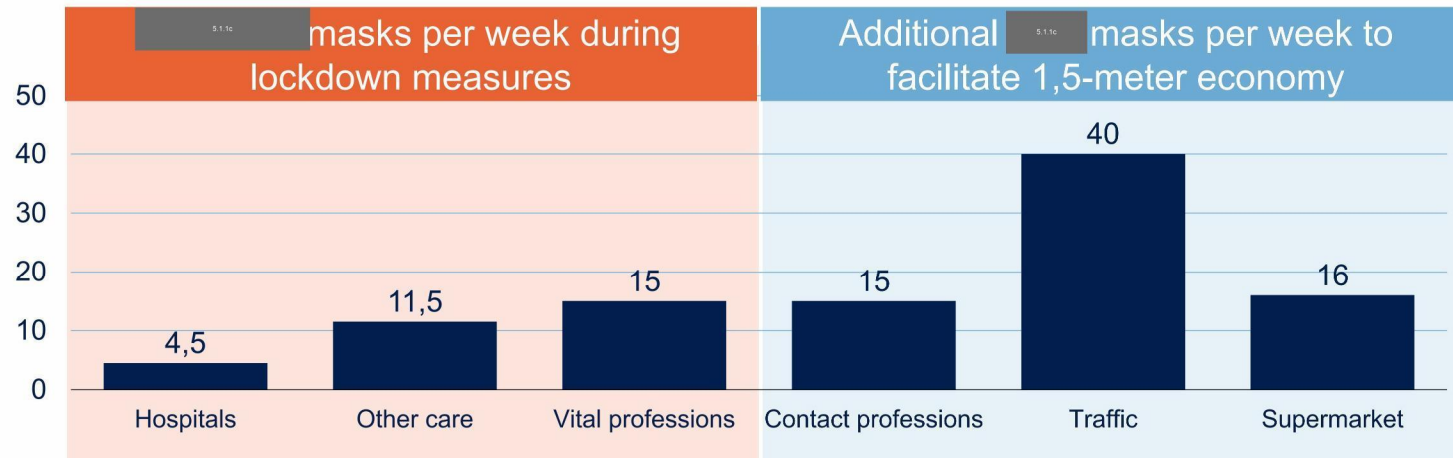
Many suppliers are lost by requiring them to fill out long standardized forms. Most deals are actually negotiated and finalized through WeChat.



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Case study Netherlands: PPE demand in '1,5-meter economy'

Market demand and trend: 5.1.1c units/week



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Sources: Central Bureau of Statistics, LCH (national coordination center PPE, desk research)

Case study Netherlands: 'ROI' of PPE

Scarcity persists, despite clearly positive public and private 'ROI'

Costs of current measures: € 5.11c * given
Dutch budget deficit 2020

Total extra costs for purchasing protective equipment beyond healthcare and vital job sectors** ~€ 5.11c / week =
~€ 5.11c per year

**Healthcare and vital job sectors require protection regardless

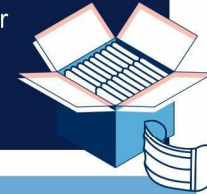
Costs for protecting employees in healthcare sector

Ca. € 5.11c per hour using FFP2 (3 hour wearing time)



Costs for protecting employees in other sectors:

Ca. € 5.11c per hour using surgical face mask IIR, 3-hour wearing time



When scaling down 'lockdown' measures, personal protective equipment (hands, mouth) are crucial for keeping $R < 1$. Economic and societal costs of current measures are much higher than required investments for a safe 1,5-meter economy, in which people can get back to work in a physically and psychologically safe manner.

Policy Transition

From scarcity thinking to MAX-purchasing

Scarcity thinking

Rationale: optimal utilization of available products (fair sharing of cake)

Scarcity thinking has a **slowing effect**:

- Protocols for PPE use assume scarcity, rather than maximum protection (unsafe)
- Projections based on artificially low (scarcity) use patterns, rather than ideal use (yields low estimates and hence low purchasing levels)
- Scarcity thinking becomes self-fulfilling prophecy when used as 'excuse' for lacking decisiveness on the market for PPE.

MAX-purchasing

Rationale: maximizing amount of available products to ensure maximum protection (increasing size of cake to have enough for everyone)

MAX-purchasing has market recovering effect:

- Internal PPE market gets going with central, reliable quality assurance
- Surplus lowers prices and destroys business for 'pirate' suppliers
- Stock build-up provides policy options for downscaling lockdowns (knowing you have a guaranteed X week buffer)



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Closer collaboration with Government

Market failure and solutions

Market failure

Large and reliable Chinese manufacturers/suppliers first take orders seriously when MOQs are above several tens of millions. Such minimum orders are simply too large for market players. Risks of getting stuck with stock are too large, while there is scarcity at the macro level. Governments are afraid to intervene in the market, but do not sufficiently realize that competition in China is between countries, rather than between firms.

Solution

Bundling of purchasing power as country, with reliable supply chain and quality assurances. Have the Government act as active buyer abroad and as facilitator of an internal market.

Practically: have the Government place very large orders with factories pointed out as promising by market parties. Get supplies to NL in collaboration. Distribute stock to market parties, at purchasing prices, through a central purchasing office/warehouse. Ensure centralized testing facilities, so that products are always quality checked before they are sold on. Market forces can be allowed to work once acute scarcity is resolved (e.g. storage, margins, distribution, etc.).

Market failure

Organizations are afraid to purchase directly in China due to lack of expertise. Risk of bad quality products per delivery is too high (ca. 10-15%). Further, there are many risks: export requirements changing by the week, currency exchange risks, air traffic limitations, etc. 'Normal' channels are not sufficiently available / do not have enough capacity for rapid upscaling.

Solution

Government can act as reliable party, from which market parties can purchase and develop a further internal market. This also prevents 'pirate trade' and extortionate pricing. A central coverage for unforeseen losses facilitates the entire market and prevents inferior batches with face masks from remaining on the market. The percentage of wrong orders can be significantly reduced by developing knowledge and test facilities in China, led by Dutch testing laboratories.

Market failure

Private parties (such as our initiative) cannot take on the risks for the required volumes of PPE. Every purchase requires down payments. Parties are afraid to get stuck with stock, while society as a whole is screaming for more PPE.

Solution

Purchasing guarantee by government for parties, as buyer of last resort, at price X and maximum volume Y, provided certain clear quality requirements are fulfilled. By covering this risk, room is created to trade with both reliable and large manufacturers, as well as small innovative factories delivering high quality.

Numbers and volumes

Hulptroepen supply capacity more than covers NL demand, meaning we can supply others as well

Available capacity of factories where we have already had orders

5.11e **per week**

Available capacity of factories of which we have tested samples & have contact with management

5.11e **per week**

Available existing stock (e.a. Chinese state-owned enterprises) e.a. N95, KN95, FFP2) produced by 3M to resolve short term scarcity in healthcare sector at 10-20% cost premium vs. production lines.

5.11e **one-off**

Conclusion

- There is fundamentally NO scarcity in the PPE market, as long as pragmatic approaches are taken
- Upscaling can be done relatively quickly, within current capacity and one-off opportunities
- Within 14-30 days, sufficient factory production lines can be started up to allow NL to work safely



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Next steps

Decisions & follow up

What we can do for you

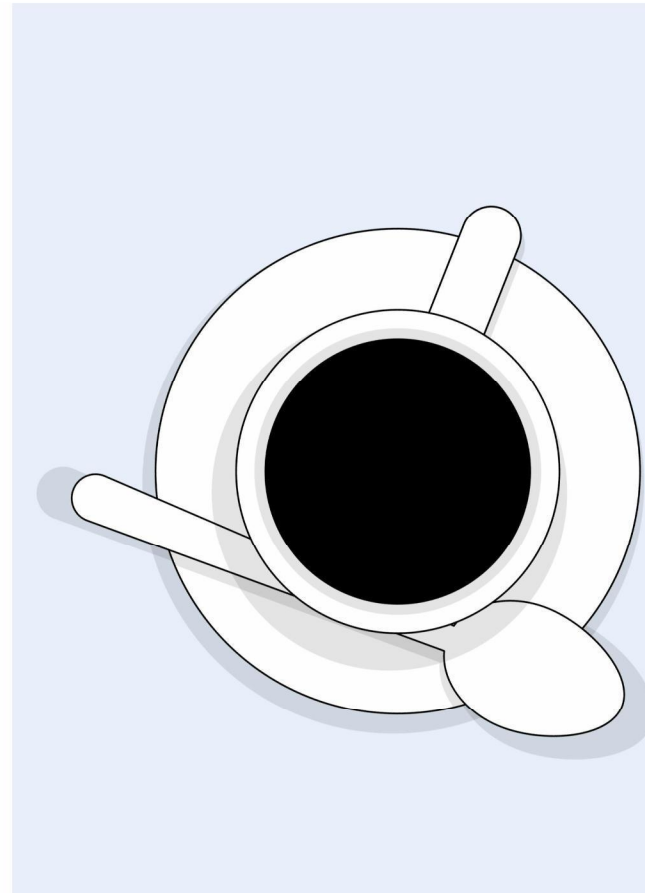
We could provide the entire supply chain from China to EU, including a quality test of each batch, solving the PPE scarcity in a matter of weeks

What we would need from you

A purchase order or license to operate (specifying goods, minimum requirements, maximum price) that gives us the autonomy to operate effectively to eliminate shortages



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Thank you

Relief Goods Alliance B.V. is a 100% daughter entity of Relief Goods Alliance Foundation.

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Our organization has general terms & conditions, volunteer agreements and required insurance policies

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