



air
95

The Custom-fit
Elastomeric Reusable
Respirator for All
Healthcare Workers
and Additional Markets

Shuo

Pittsburgh-based Orthopedic
Surgery Physician Assistant

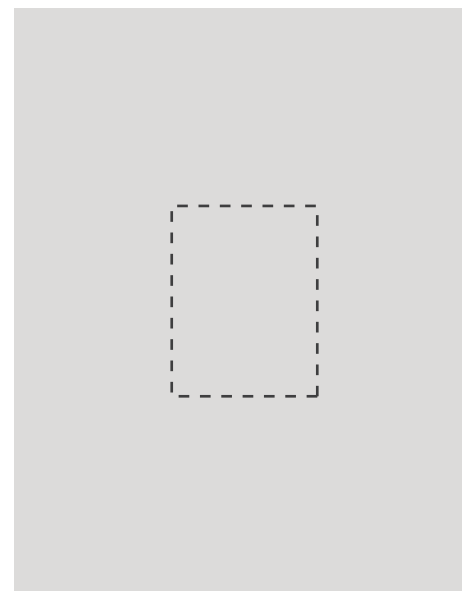
“ I had to wear painful face
tape and pinching masks.
I still failed fit-tests.

This mask fits me
and is very comfortable.”

Pittsburgh Lead



Matthew Kelley
Co-Founder,
CEO



Manufacturing Tech
Hiring Locally

Product Advisors



Dr. Jen Schneider
CDC Funded Researcher
Heading CDC in Provision of Equitable PPE
Certified Industrial Hygienist / RIT Professor



Dr. Joshua E.
Medical Influencer
Pittsburgh-Based

Remote Engineering Support



Jared West
Co-Founder,
Engineering Advisor
Atlanta GA / Italy



Jason Morlock
Engineering Support
Singapore

Buisness Advisors



Rajiv Bhat
YCombinator W2010
Co-Founder of Mertado,
Aquired by Groupon



Sam Wurzel
Tech-to-Market
Advisor at ARPA-E
CEO, Co-Founder of
Octopart, Aquired by Altium



Amy J. Embert
AOP IP Counsel
CEO, Resonance
IP Law

■ **Problem 1:** masks do not fit healthcare workers



39%
fit-test failure rate

2024 study of 400 HCW N95 use and reuse

■ **Problem 2:** healthcare workers / systems suffer additional mask issues

disposable N95s
filtering facepiece respirators
(FFRs)



are uncomfortable: **71%** headaches breathing issues **52%** facial irritation 2020 study of 122 HCW N95 use

are costly in times of surge and routine: **10x - 60x** more cost than reusable options

manufacturers can't supply need in surge times: **210 million masks short of U.S. needs / mo** NIH National Library of Medicine

constraints keep HC systems from stocking proper mask reserves in routine times: **limited storage / shelf-life / high cost / other priorities**



Outfitted 8,000 AHN HCWs with Reusable Elastomeric Half-Face Respirators (EHFR)



study findings ▶

EHFR are more affordable, protective, and supply-ready than disposable N95s.

■ Problem 3:

But EHFRs don't fit everyone properly, weren't designed for the healthcare setting, and are generally uncomfortable.

■ Problem 3 By The Numbers

Journal of Nursing Care Quality

Use of Elastomeric Half-Mask Respirator in the Clinical Care Environment : Health Care Worker Perceptions 2024

CDC > NIOSH > NPPTL

NPPTL

Assessment of Elastomeric Respirators in Healthcare Delivery Settings: (REUsE) 2024

65%

of 1478 HCWs disagree / strongly disagree EHMRS are comfortable for entire shifts

● comfort problem

19%

of HCWs could not pass fit-test first time

● fit problem

83%

of HCWs suffer issues verbally communicating w/ patients

● not designed for healthcare

54%

of HCWs suffer nose pinching

● comfort problem

76%

of HCWs suffer facial irritation

● comfort problem

● not designed for healthcare

“Patients have shared that it makes staff look **less approachable**. They notice our change in attitude when wearing [the] respirator. Overall, making it **difficult to build rapport with patients.**”

 **AHN** CMO Dr. Chalikonda:

“The hope is the research will result in a very healthcare-specific mask that will enable specific features to healthcare and address all the different settings these masks are used in.”

The Opportunity

The HC industry is shifting to EHFRs, despite their problems. The HC industry needs a **Healthcare-Specific** EHFR that **fits everyone comfortably**, at a **low cost of ownership**.





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- ● Custom-fit to Each User
- Healthcare Design
+ Adaptability & Other Markets
- Reusable Design
+ Filter Subscription Program

disposable N95



healthcare use

validated baseline design
capable of serving both markets

p100
EHFR



industrial use



air
95

fully reusable

lower cost

airtight seal

0.6 lbs

comfortable

2-way filtration

.8g waste mass

limited reuse

higher cost

no airtight seal

0.2 lbs

uncomfortable

no 2-way filtration

10 g waste

fully reusable

lower cost

limited airtight seal

2.4 lbs

uncomfortable

no 2-way filtration

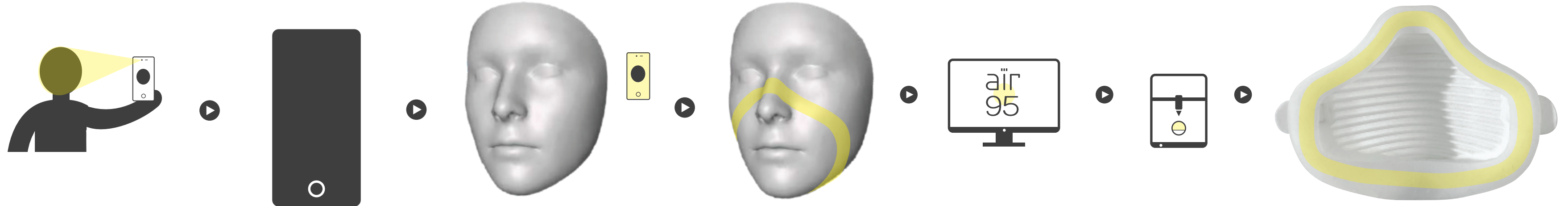
100g waste mass

Custom-fit to Each User

designed to fit you perfectly.



enhanced safety
maximized comfort



scan face using Air 95 face scan app

your unique face data points

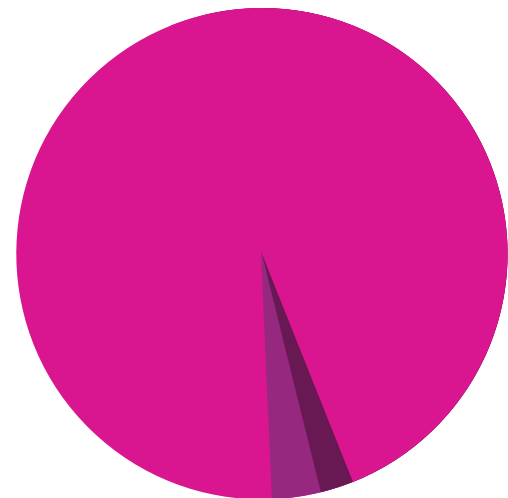
patented custom-fitting algorithm

3D printed

your unique custom-fitted Air 95

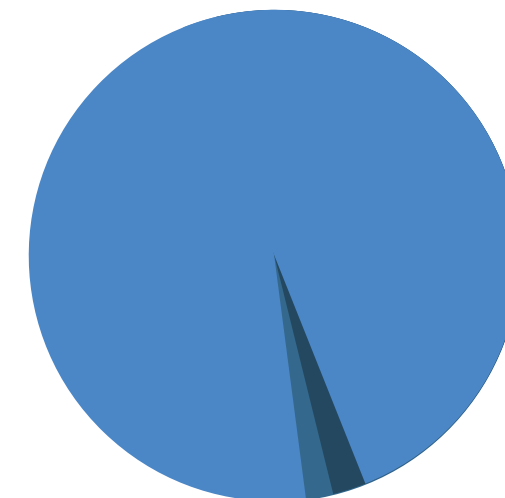


◆ Enhanced Safety

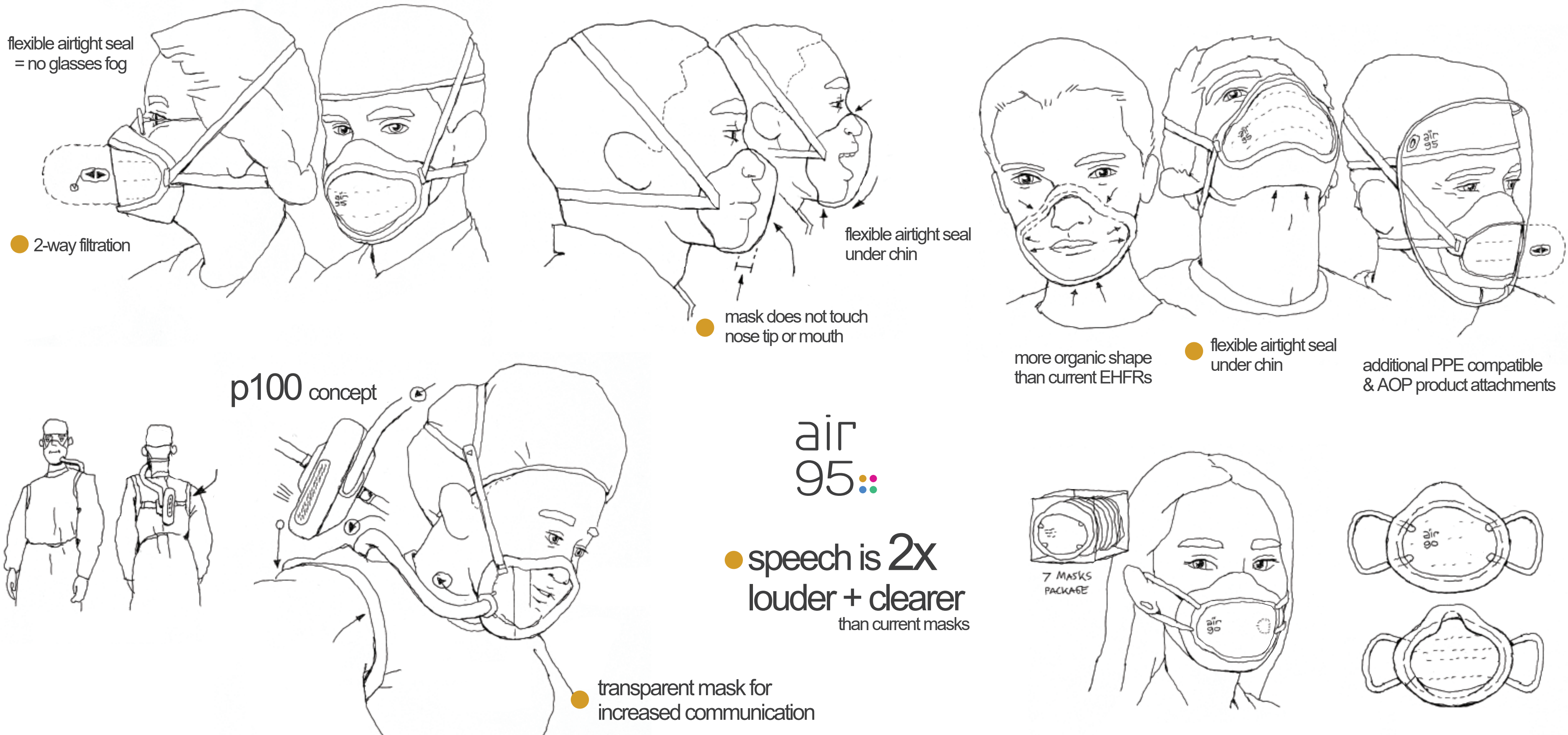


- 47 of 52 "Excellent Seal. Feels airtight."
- 3 of 52 "Good Seal. May feel airtight."
- 2 of 52 "Moderate Seal."

😊 Maximized Comfort



- 48 of 52 "Very comfortable"
- 2 of 52 "Comfortable"
- 2 of 52 "Neutral"



Accessible base design made for many healthcare settings and additional markets: industrial, consumer, DOD. Future plan to produce other custom-fit PPE / products (eye, ear, mouth, head protection/products, sleep aids, etc.)

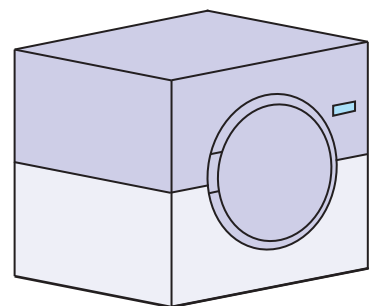
99+% filtration efficiency
with 75% less inhalation resistance
(per unit area)

mask

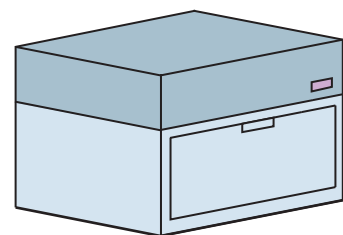
replaceable filter

filter gasket

material provided by filter partner **Filti**



autoclave



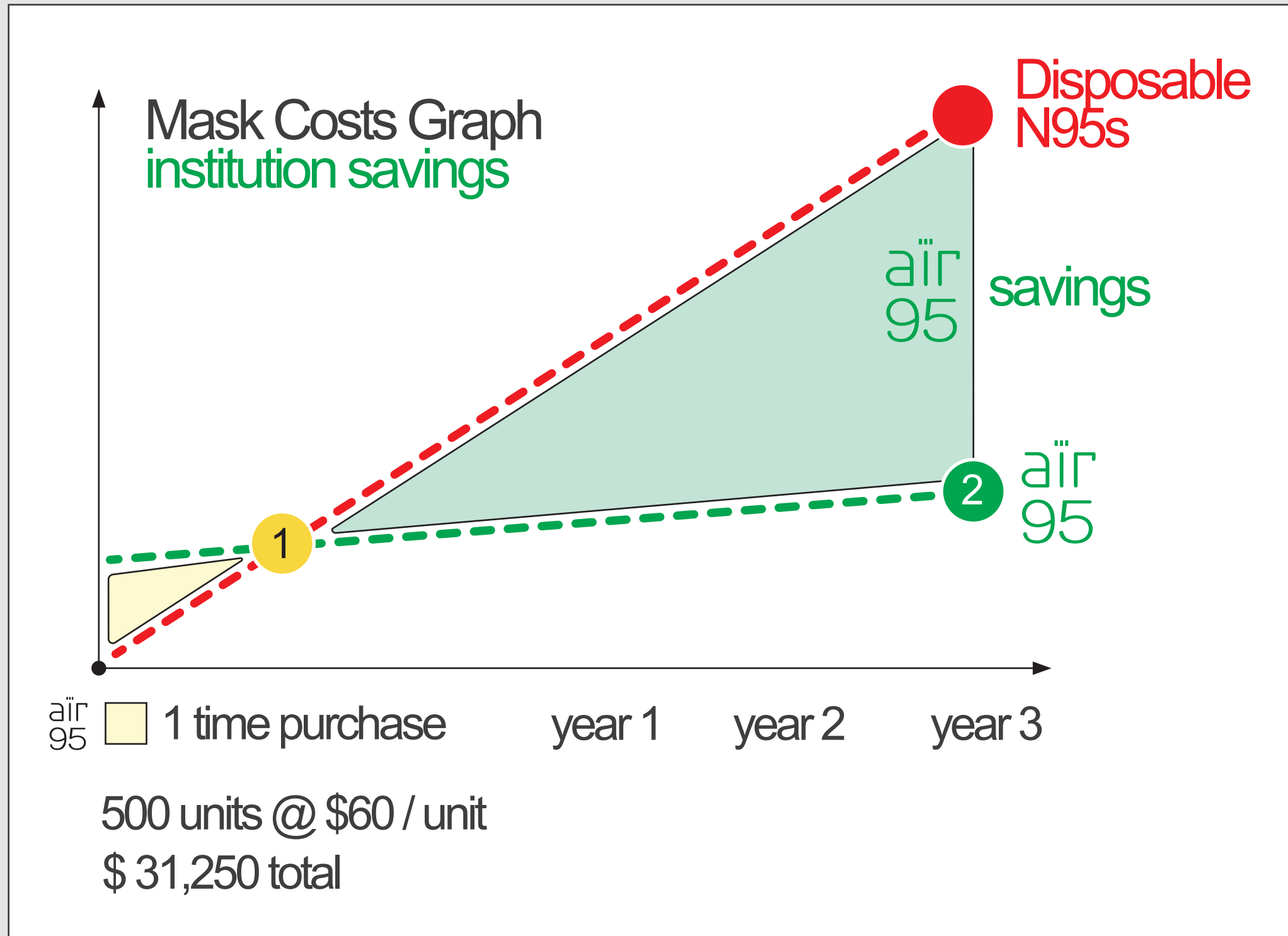
UV light

or wipe down disinfection

- 18 of 21 “Easy” filter replacement system
- 2 of 21 “Moderate” filter replacement system
- 1 of 21 “Difficult” filter replacement system



● Filter Subscription Program



air 95 ① Pays for itself in only 80 uses.

air 95 ② Cuts mask costs by 60% compared to disposable N95s

LOIs

CDC Funded Researcher
Heading CDC in Provision of Equitable PPE
Recommended

air 95

Letter of Intent (LOI) for Air 95
Custom-Fitted Face Mask Product Support

I, Thomas Doyle, MD, on behalf of Columbus V... express my intent to support and participate in **Custom-Fitted Face Mask**, as described by A...

I acknowledge the value and potential impact of protective equipment needs of workers in med... industries.

I express my genuine interest in reserving a pl...

I am willing to consider purchasing **Air 95** when for purchase.

I understand that this Letter of Intent is non-binding commitment to purchase **Air 95**. It serves as a... aiding ATLAS Occupational Products, Inc. in gauging demand and formulating launch strategy.

This Letter of Intent shall be effective as of 06/19/2024

Contact Details:
Full Name: Thomas Doyle, MD
Position: Medical Director of Vein Services
Company: CVVA
Email: tdoyle@cvva.com
Date: 06/19/2024
Signature: Thomas Doyle

air 95

Letter of Intent (LOI) for Air 95
Custom-Fitted Face Mask Product Support

I, Mark Heltzer, DPM on behalf of WVU Medicine Wheeling Hospital hereby express my intent to support and participate in the early launch phase of **Air 95, The Custom-Fitted Face Mask**, as described by ATLAS Occupational Products, Inc.

I acknowledge the value and potential impact of protective equipment needs of workers in medical, construction, and manufacturing industries.

I express my genuine interest in reserving a place as an early adopter of **Air 95**.

I am willing to consider purchasing **Air 95** when a production-grade version is available for purchase.

I understand that this Letter of Intent is non-binding and does not constitute a formal commitment to purchase **Air 95**. It serves as an indication of my interest and support, aiding ATLAS Occupational Products, Inc. in gauging demand and formulating launch strategy.

This Letter of Intent shall be effective as of 9/3/24.

Contact Details:
Full Name: Mark Heltzer, DPM
Position: Medical Director of Vein Services
Company: WVU Medicine Wheeling Hospital
Date: 9/3/24
Signature: Mark Heltzer

air 95

Letter of Intent (LOI) for Air 95
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I, Crystal Bradshaw, DPM on behalf of WVU Medicine Wheeling Hospital hereby express my intent to support and participate in the early launch phase of **Air 95, The Custom-Fitted Face Mask**, as described by ATLAS Occupational Products, Inc.

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This Letter of Intent shall be effective as of 9/3/24.

Contact Details:
Full Name: Crystal Bradshaw, DPM
Position: Podiatric Surgeon
Company: WVU Medicine Wheeling Hospital
Email: crystal.bradshaw@wvumedicine.org
Date: 9/3/24
Signature: Crystal Bradshaw


RIT Collaboratory for Resiliency and Recovery

September 4, 2024

Dear Reviewers,

As a longtime **Certified Industrial Hygienist and HAZMAT specialist**, I am writing in support of the application for ATLAS Occupational Products Inc, and their **ATLAS AIR 95** Respiratory protection product to AlphaLab Health. This product has many of the performance-related features that are needed for the current respiratory protection market, including an individualized framing system to address fit and reusability/ changeout. The product needs trialing and user feedback to address creating an even tighter seal to reach the 95% filtration efficiency standard, while retaining comfort, and a redesign to allow for choice of strap and attachment points to the facepiece.

Additionally, as a researcher, I currently have a project funded by the CDC in Provision of Equitable PPE. As the pandemic showed, Personal Protective Equipment (PPE) is not and has not been designed, provided, or supported equitably. In fact, current US policy and guidance does not support equitable provisioning to promote health and wellbeing for all. The health technology within the PPE ecosystem has not been created with inclusive standards in mind and, in fact, discourages use by anyone who does not meet historical standards rooted in user data from World War II. While the US has made great strides in technology, it has not allowed for adaption of that health technology to reflect our increasingly diverse society, nor has it reflected the possible needs of users outside a narrow description of healthy, "standard-sized" workers. This is one example of why such products are needed for the next generation of health professional and for protection of the broader community.

Sincerely,

 Dr. Jennifer L. Schneider, CIH (CP7273)

Professor and Principal, Collaboratory for Resiliency & Recovery
<https://www.rit.edu/resiliencyandrecovery/>
 Professor, Civil Engineering Technology, Environmental Management & Safety Department
 Rochester Institute of Technology

willing to consider purchasing when production-grade version available

◆ go-to-market strategy

~10 - 17 months

1. Continued product development and validation.

September

2. Continued testing with third-party lab, Nelson Labs. Reach 95% filtration efficiency.

October

~ November 2024

3. Initiate NIOSH N95 Certification and fit-testing. (4 - 5 month testing process. ~ **April** receive certificate)

December

4. Targeted marketing and outreach to healthcare networks (small-medium size and/or local)

- Leverage our existing relationship with the CDC and LOIs / customer validation
- Partner w/ healthcare institutions and key opinion leaders to endorse and promote Air 95
- Create / provide education, more pilot programs, demonstrations to HC workers and procurement officers to show benefits of Air 95

January

~ February 2025

4. Identify and focus on distribution channels. Collab with:

March

A) Established distributors with existing networks in HC sector

April

B) Manufacturers that comply with FDA's QSR / GMP

C) Continue to establish relationships with HC facilities to provide direct sales opportunities

May

4. Value proposition and differentiation. Highlight Air 95's cost-benefit analysis by showcasing:

June/July

A) Long-term cost benefits of Air 95 ownership / filter subscription program

Aug/Sep

B) Emphasize the enhanced safety, maximized comfort of Air 95, which leads to higher compliance and protection for employees and patients

October

~ November 2025

thank you!

appendix pages next



contact:

matthew@air95mask.com

air95mask.com

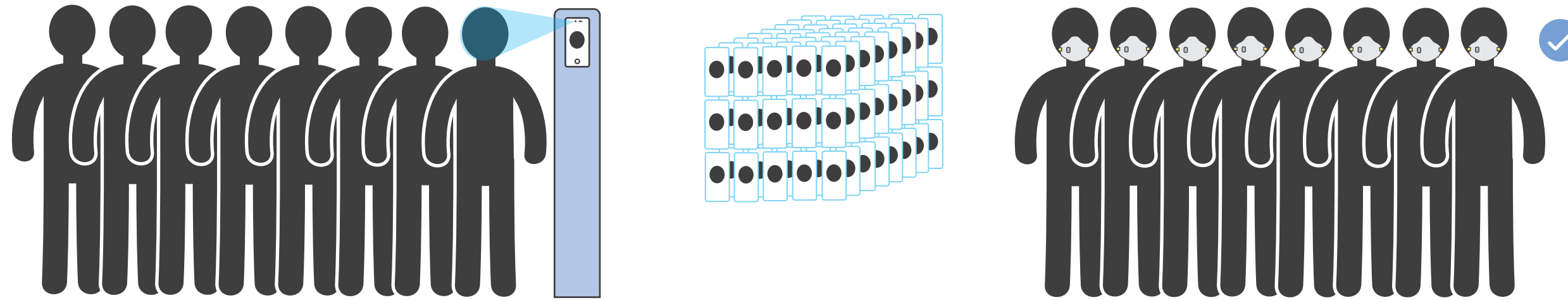
air
95

The Custom-fit Elastomeric Reusable Respirator
for All Healthcare Workers and Additional Markets

appendix pages next

scaling a customized product

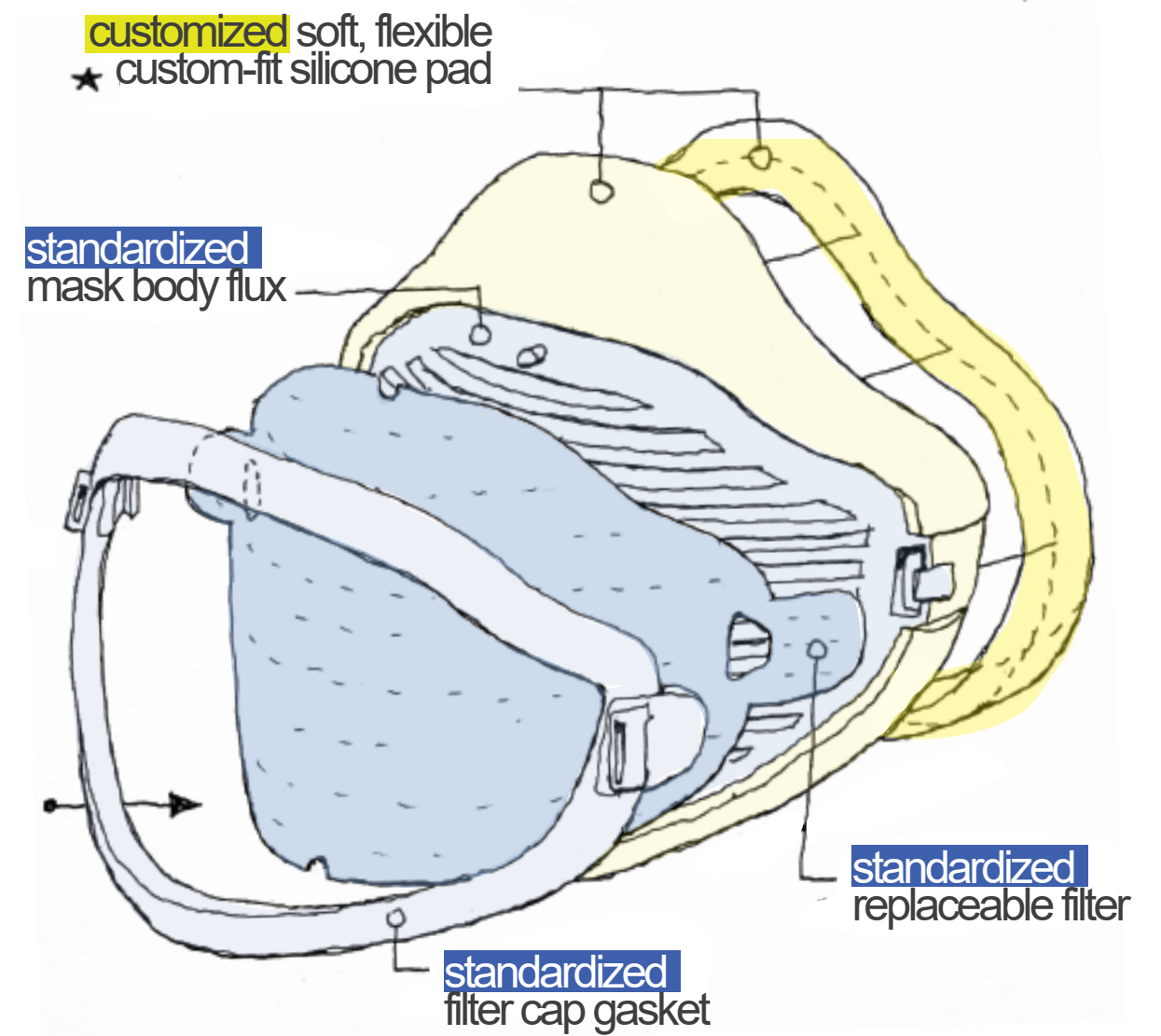
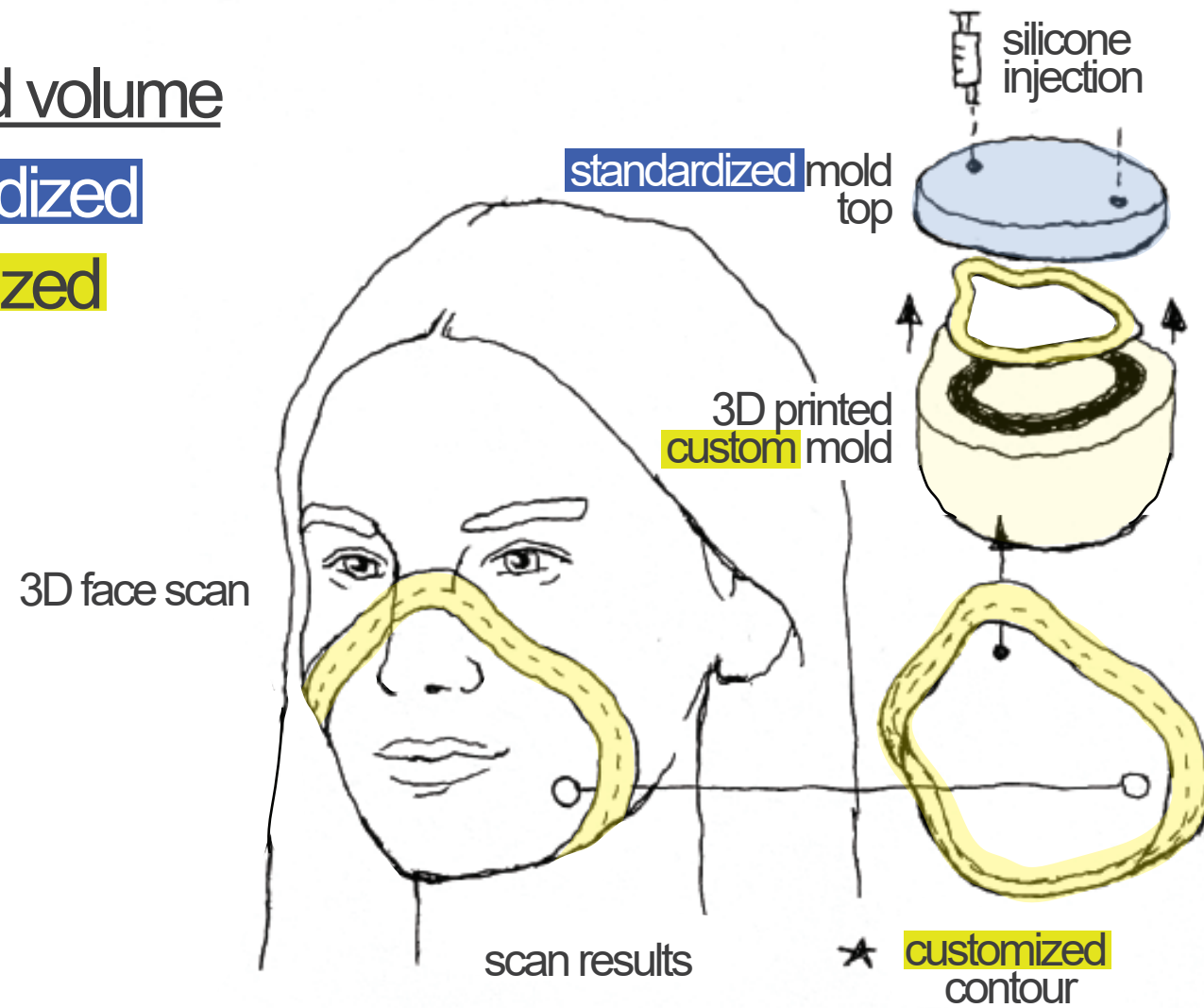
employees ▶ app scan booth ▶ scans collected ▶ masks made + delivered



total manufactured volume

75% standardized

25% customized





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This Letter of Intent shall be effective as of 08/19/2024.

Contact Details:

Full Name: Thomas Doyle, MD
Position: Medical Director of Vein Services
Company: CVVA
Email: tdoyle@cvva.care

Date: 08/19/2024

Signature: Thomas Doyle



Letter of Intent (LOI) for Air 95
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I, Mark Hofbauer, DPM on behalf of WVU Medicine Wheeling Hospital hereby express my intent to support and participate in the early launch phase of **Air 95, The Custom-Fitted Face Mask**, as described by ATLAS Occupational Products, Inc.

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This Letter of Intent shall be effective as of 08/22/2024.

Contact Details:

Full Name: Mark Hofbauer, DPM
Position: Medical Director of Foot and Ankle Surgical Services
Company: WVU Medicine Wheeling Hospital

Date: 08/22/2024

Signature: Mark Hofbauer



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This Letter of Intent shall be effective as of 9/3/24.

Contact Details:

Full Name: Crystal Bradshaw, DPM
Position: Podiatric Surgeon
Company: WVU Medicine Wheeling Hospital
Email: crystal.bradshaw@wvumedicine.org

Date: 9/3/24

Signature:

CDC Funded Researcher Heading CDC in Provision of Equitable PPE Recommended

IP Counsel Statement patent # **US-2021-0353973-A1**



September 4, 2024

Dear Reviewers,

As a longtime Certified Industrial Hygienist and HAZMAT specialist, I am writing in support of the application for ATLAS Occupational Products Inc, and their ATLAS AIR 95 Respiratory protection product to AlphaLab Health. This product has many of the performance-related features that are needed for the current respiratory protection market, including an individualized framing system to address fit and reusability/ changeout. The product needs trialing and user feedback to address creating an even tighter seal to reach the 95% filtration efficiency standard, while retaining comfort, and a redesign to allow for choice of strap and attachment points to the facepiece.

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Sincerely,

Dr. Jennifer L. Schneider, CIH (CP7273)

Professor and Principal, Collaboratory for Resiliency & Recovery
<https://www.rit.edu/resiliencyandrecovery/>
Professor, Civil Engineering Technology, Environmental Management & Safety Department
Rochester Institute of Technology

“ AOP has allowed claims that are currently pending at the United States Patent and Trademark Office.

AOP expects to receive a Notice of Allowance in a few weeks and the patent to issue in approximately 2 months. ”

Amy J. Embert AOP IP Counsel **9/5/24**
CEO, Resonance IP Law

Allowable Subject Matter

The Office Action's indication that claims 15-17 are allowed is noted and appreciated. The remaining claims of the application have been cancelled. Accordingly, the pending claims of the application (i.e., claims 15-17) are in a condition for allowance and Applicant respectfully requests a notice to that effect.

Conclusion

In conclusion, the present claims are patentable over the cited references for at least the reasons provided above. Accordingly, Applicant respectfully requests withdrawal of all the rejections of claims cited in the Office Action and allowance of the claims. If the Examiner feels that a phone conference will in any way advance prosecution of this application, please call the undersigned attorney at 408-637-1330 at their convenience.

Please charge any fees due to Deposit Account 60-4412.

Respectfully submitted,
RESONANCE IP LAW, PC

/Amy J. Embert/
Amy J. Embert, USPTO Registration No. 58,822