Building Social Acceptance for Advanced Air Mobility

Key Learnings and Insights from Years of Local Engagement

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wisk

Highlights & Key Takeaways

This paper outlines Wisk's approach to building social acceptance, including key learnings and insights from years of local engagement and from our ongoing work with stakeholders, local communities, and governments across jurisdictions. Wisk has had more than 5 years of experience actively working within the New Zealand ecosystem and we wish to share our learnings with the Advanced Air Mobility (AAM) industry.

Key Takeaways

Building social acceptance and four Guiding Principles: with no precedent for the introduction of a product or service that is as complex and multifaceted as a self-flying, all-electric air taxi, the traditional approach may not apply. Wisk navigated through a new approach with New Zealand that included the four guiding principles:

1. **Safety:** Maintain high levels of consumer and public safety and security at all times.
2. **Equitable and Inclusive:** Include diverse perspectives in order to build and maintain trust and respect.
3. **Accessible:** Be open to engagement and make it clear how stakeholders could be affected by the operation.
4. **Evidence-based:** Gathering data as an essential part of the process of engagement — to inform, not dictate.

Wisk Way: Method of Engagement

Importance of stakeholder mapping: Employ a comprehensive approach to engaging with all stakeholders rather than solely focusing on those that are most influential.

Creating a Dialogue: Involve stakeholders and communities early, and start small.

Access & Inclusion: Fair distribution of transport related to benefits as a significant predictor of trust and acceptance.

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Introduction

"Ehara taku toa i te toa takitahi, ēngari te toa takitini"

Success is not the work of one, but the work of many

Māori proverb from Aotearoa New Zealand

What is AAM?

Advanced Air Mobility (AAM) is a new form of aviation using the airspace above congested urban areas to provide businesses, local communities, and emergency responders with improved mobility options.

This new industry is developing and growing from completely new products and services. It is not intended to replace existing means of transportation, but rather to enhance them by relieving strain and reducing reliance on ground-based infrastructure. AAM will become part of a more efficient, seamless, multi-modal transportation system that saves time and is kinder to the environment.

The potential social benefits of AAM are powerful. This new technology will connect people, places, and goods, create new jobs and support local economies, and support a lower emission transport future. Beyond transport, AAM will be a powerful tool in helping people access hard-to-reach areas and in situations that pose risk to human life, for example: emergency rescues, monitoring climate change, and tracking wildlife for conservation purposes.

AAM represents the creation of an entirely new industry, and with its development, there is an unprecedented opportunity to ensure that the services and technology benefit all members of the communities it will serve. Thoughtfulness in the early stages will ensure equal opportunity across all users and that environmental and social needs are held in equal value to the economic benefits.

Local, regional, and federal governments will also play a critical role in realizing the promise of AAM and ensuring the equitable distribution of its benefits.

Wisk's operations, in the South Island of Aotearoa New Zealand, encapsulates the central nature of the relationship between AAM provider and Government (federal and state), communities of place, communities of interest, and Māori (the indigenous people of New Zealand).

This paper outlines Wisk's approach to building social acceptance, including key learnings and insights from years of local engagement and from our ongoing work with stakeholders and local communities and governments across jurisdictions.

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What is Social Acceptance?

The concept of "social acceptance" (also known as "social license") is not new, but the introduction of the concept into public discussions is particularly timely as we enter this new frontier of aviation.

Introducing a new technology that has the potential to fundamentally change everyday life is complex. Beyond legal and regulatory approvals, the opinion and reactions of the community are critical factors to success.

Under normal social acceptance practices, a company like Wisk might generally start by looking to understand the demands and expectations of local stakeholders and the broader community.

However, there is no precedent for the introduction of a product or service that is as complex and multifaceted as a self-flying, all-electric air taxi. We found that in order to achieve social acceptance we needed to rethink the "traditional" approach for how to engage with stakeholders.

In its broadest terms, social acceptance/social license tends to be regarded as the ongoing acceptance or approval of an operation by local community stakeholders who are affected by it and who can affect its success/profitability.
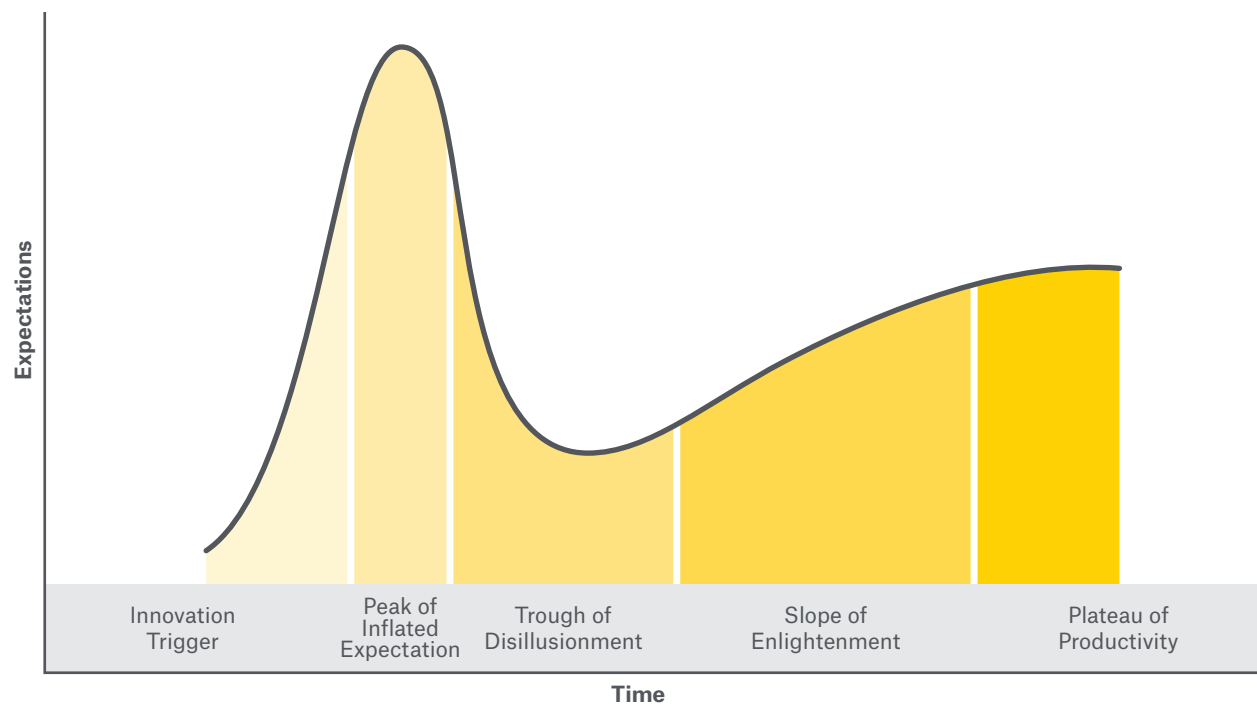
Depending on the technology and the societal response, the public will seek reassurance in a new product through the formal approvals of a regulator or government, or be driven by market demand. Social acceptance varies for all types of technology and is managed distinctly for different types of product. It involves unique perceptions of risk and benefit, and sometimes contrasting views from multiple stakeholders.

The Gartner Hype Cycle[1] is a graphical representation of the perceived value of a technology trend or innovation — and its relative market promotion. The cycle can help to understand how the perceived value of a given technology evolves over the course of its maturity lifecycle.

Innovative new technologies often arrive with waves of marketing hype. They are frequently touted as "revolutionary!", "disruptive!", or "game-changing!" before businesses and consumers actually have a chance to put them to practical use.

THE HYPE CYCLE

Innovation Trigger · Peak of Inflated Expectation · Trough of Disillusionment · Slope of Enlightenment · Plateau of Productivity

Source: Gartner (August 2018)

1. *Understanding Gartner's Hype-Cycle:* Blosch, M; Fenn, J; 20 August 2018; ID: G00370163
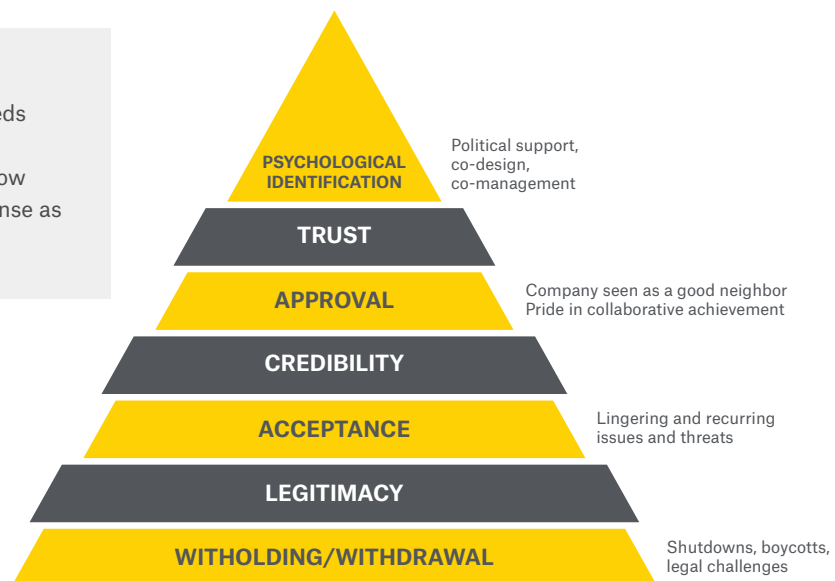
For Wisk and the AAM industry, the complexity of introducing a new aircraft to our communities is compounded because before a full service can be offered, iterative developments and operations demonstrating effectiveness are needed. That means the vehicle is often tested in a real life environment before it is certified to enter into commercial service.

As we work through this process, it is important to be mindful of building on the relationship pyramid.

The relationship pyramid clearly demonstrates that it is not enough to just build legitimacy — which may be expressed through certification or a regulatory licence to operate. Being the first or the biggest also does not automatically give you legitimacy or even credibility. To be sustainable and successful, you must have trust and respect.

WISK'S RELATIONSHIP PYRAMID

The grey areas are the levels of acceptance that a company needs to move through to build social acceptance to operate. The yellow bars are the community's response as you move through each stage.

PSYCHOLOGICAL IDENTIFICATION — Political support, co-design, co-management

TRUST

APPROVAL — Company seen as a good neighbor Pride in collaborative achievement

CREDIBILITY

ACCEPTANCE — Lingering and recurring issues and threats

LEGITIMACY

WITHOLDING/WITHDRAWAL — Shutdowns, boycotts, legal challenges

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Method, Action, (Re) Evaluation — the Wisk Way

There is little doubt that communities vary widely across contexts and over time. This means that the nature of a company and community interaction can look very different based on the nature of the transport activity and the timeframe that it is being introduced. Community acceptance, and what is perceived as valuable, can change over time as the demographics of the population shift or local priorities change (for a company, a community or both).

It is therefore not enough to engage once and "set and forget." There must be a regular and ongoing effort and dynamic conversations on both sides, matched by a willingness to listen and a willingness to change. For the AAM industry, this time element has the potential to have a huge impact given the exponential development that is likely to occur over the coming years as companies and communities prepare for the launch of new services.

Wisk has developed four guiding principles that map to the core of our philosophy of working with communities and which form the basis of our social acceptance with our stakeholders, supporting the work to build legitimacy, credibility, and trust.

Safety: Maintain high levels of consumer and public safety and security at all times.

Equitable and inclusive: Include diverse perspectives, be fair, and maintain trust and respect.

Accessibility and Transparency: Be open to engagement and make it clear how stakeholders could be affected by the operation.

Evidence-based: Gathering data as an essential part of the process of engagement — to inform, not dictate.

There is also a common set of structural elements that underpin effective community relations, which have been demonstrated to be relevant across diverse contexts.

1. Starting early and working at the pace of the stakeholder.

2. Using qualitative and quantitative data to build a picture of the core issues and concerns.

Listening and then acting and then listening again. Wisk firmly believes that it is not just about the destination, but how you get there. Building social acceptance is a collaborative journey.

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Method of Social Engagement — the Wisk Way

Stakeholder Mapping

At Wisk, we define stakeholders as those who perceive any type of relationship with our operation, rather than solely focusing on those that are most influential.

Put simply, if someone feels like they are impacted, that is a legitimate position, and Wisk has a responsibility to be inclusive of their voice. This recognizes that, for the most part, it is the stakeholders who have the power to either stop the project or let it proceed.

For example, we currently fly over landowners. From a regulatory perspective, they do not have any say regarding our travel over their land as long as we meet our regulatory requirements, but sometimes a landowner will perceive that they do.

We have invested in understanding what it is that these landowners are most worried about (both through research and then through direct engagement) and have worked with them to reduce the perceived concern through familiarization with the aircraft, building relationships, and a sense of community around our progress. The result has been a relatively quick evolution from high concern to growing trust. This has been evidenced by a willingness to engage — without hesitation — on a variety of topics and requests.

A 360 degree stakeholder view helps to fully understand the needs and wants of stakeholders. While this is a tool most commonly applied in business for customers it can also work well for peers and the public too. It also helps in understanding the variances in how stakeholders perceive the terms "safety" and "security." They often mean different things to different people and it is critically important to understand those variances and build a common vernacular.

OUR STAKEHOLDERS

Local and national government representatives

Future customers and passengers

Existing airspace users

Overflown communities

Persons of reduced mobility

Peers, providers and supply chain

Local and national policy makers and regulators

Stakeholder Mapping (continued)

Once stakeholders are identified, it is important to understand the issues that concern them most. Through regular consumer and community research, we have been able to understand potential future passenger sentiment toward self-piloted electric flight. This research provides invaluable insight that helps shape our engagement strategy and the areas that we need to address as consumer concerns evolve over time.

Some of our earlier research[2] was conducted among members of communities that are likely to be affected by operations, early adopters, and the general public. This research used a focus group design in order to reproduce social processes, explore complex attitudes and biases, and reflect how opinions

and beliefs are created in the wider social world through social interaction.

The research suggested that the most useful way to influence the social acceptance of AAM is to think of it as a subset of how people respond to uncertainty. This means that it is important to work with (and not against) the cognitive shortcuts and heuristics that people use to frame and process new experiences. For our industry, this means recognizing that people deal with uncertain situations by favoring the status quo and by initially fearing losses more than they perceive gains. More (or better) information on its own will not shape attitudes. Instead, what matters is to demonstrate how the new technology will benefit everyone.

THE ACCEPTANCE CURVE

Typical acceptance curve

Likely curve for AAM

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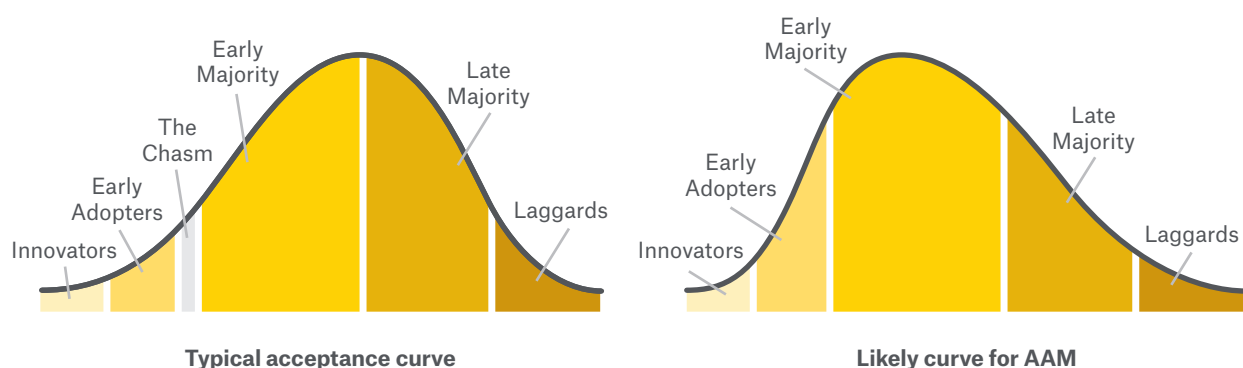
2. Wisk Aero. (2017). *User and Community Perspectives on Self-Piloted Electric Flight.*

Creating a Dialogue

While sharing our vision and mission is important, listening and considering the opinions of the public and stakeholders is equally so. Creating the processes for meaningful and ongoing dialogue is critical to success.

A core part of that dialogue is to involve stakeholders and communities early (not when you are just about to launch) and start small. Involving trial programs and pilot programs gives everyone a chance to explore both the short term and long term impacts, as well as address stakeholders initial key concerns.

Consultation is a useful tool for gathering insight. What's even more effective is when stakeholder feedback is taken on board affecting real change. Demonstrating the changes made as a result of input can be a critical piece of gaining social acceptance.

Wisk has also adopted a policy of "show, don't tell." In addressing core concerns about safety and annoyance, there is nothing more powerful than being able to show people our aircraft and emphasise the local co-design opportunities that have contributed to its development.

Social acceptance is not about focusing solely on the influencers and authorities. Instead, it is about engaging with communities of place and communities of interest — from the local firefighting service, to helping an 8 year old with their school project. It's about connecting with people at all different levels.

Students from Lake Tekapo School visiting Wisk's facility, NZ.

Creating a Dialogue (continued)

To truly achieve social acceptance, it takes more than one engagement, one conversation, one consultation.

It is about many small and tangible actions, built from meaningful engagement with stakeholders and communities. This genuine approach will make the difference not only in the way a company is perceived but also in the enthusiasm that communities have for a given technology and the future industry.

The importance of these micro-engagements and the authenticity of the participants cannot be undervalued. These elements will be a key driver in building an understanding of AAM and its benefits, as well as countering the perception that the service is exclusive.

Social acceptance can be lost more quickly than it can be obtained and no organization can afford to be complacent. It may not be possible to continuously engage with stakeholders, but it is important to put in place a mechanism for ongoing review, so that there is a cycle of assessment and improvement.

Show, Don't Tell

Christchurch City Council's Take Charge 2021 event in New Zealand's South Island was an example of taking technology to the people.

Wisk has strong connections with Christchurch, as we are working with the city and the Canterbury region. The Canterbury region is also where we will deliver our airspace integration transport trial.

The City-sponsored event (pictured) — focused on electric aircraft and sustainable transport — gave Wisk the opportunity to meet with thousands of people from the general public over the course of a weekend.

As an all-electric aircraft, Wisk's air taxi received a lot of interest from aviation enthusiasts and also those that are excited by the prospect of transport options with zero emissions.

A key takeaway from the event was the validation of our long-held approach and understanding that people value being able to see things for themselves and talk to the experts.

Access and Inclusion

Actively and authentically engaging with hard-to-reach, disenfranchised, underserved, disabled and minority communities is vital in bringing the diversity of voices to the table and ensuring that services are accessible to those that need them most.

This goes to the heart of the concepts of inclusivity and distributional fairness — the extent to which the benefits of an operation like ours are perceived to be distributed fairly within a community. Studies show that people are more open to a change when they believe that they receive a fair share of the benefits in a given situation, otherwise they will tend to reject the arrangement.[3]

In the context of AAM, the fair distribution of transport related benefits will be a significant predictor of trust and acceptance for the industry. For example, communities may benefit through the creation of new, local jobs, training opportunities[4], investment in local infrastructure[5], or improvements to community and emergency response services.

3. Colquitt et al., 2001; Cropanzano et al., 2007; McComas and Besley, 2011; Siegrist et al., 2012
4. Measham and Fleming, 2014
5. Michaels, 2011

### Te Rau Rere ki Tua — The Future of Flight

A tangible example of our social licence work in action is in building diversity and inclusion in our pipeline of talent for the future — that is an area that we have been actively working on in the US and in New Zealand.

In New Zealand we've tried to move beyond the usual internships and worked with Ngāi Tahu, the largest Māori iwi (tribe) in the South Island of New Zealand, to support their Te Pōkai Ao STEM leader program. Prior to COVID-19, the annual cohort visited our Californian facility and our base in Tekapō in the South Island of New Zealand. This builds connections and confidence with the next generation, and our aim is to encourage their pursuit of STEM subjects and have them come through as future recruitment candidates.

Te Rūnanga o Ngāi Tahu Chief Executive Officer, Arihia Bennett, said: "This is what Te Pōkai Ao is all about — giving our future leaders an opportunity to broaden their horizons and explore innovative opportunities. It was great to see this group of young Ngāi Tahu get insight into the cutting-edge technology under development at the Wisk Facility. This goes to the heart of the work we do as an iwi to create opportunities for future generations."

"Māori are the fastest growing population in Aotearoa New Zealand, so it is critical that we make sure our rangatahi (young people) are set up to succeed and contribute to the future of this country. The STEM fields are not only high-value industries, but also areas where our rangatira (leaders) of tomorrow can have a positive impact on issues we face today, such as climate change."

Prior to COVID-19, the annual cohort visited our Californian facility.

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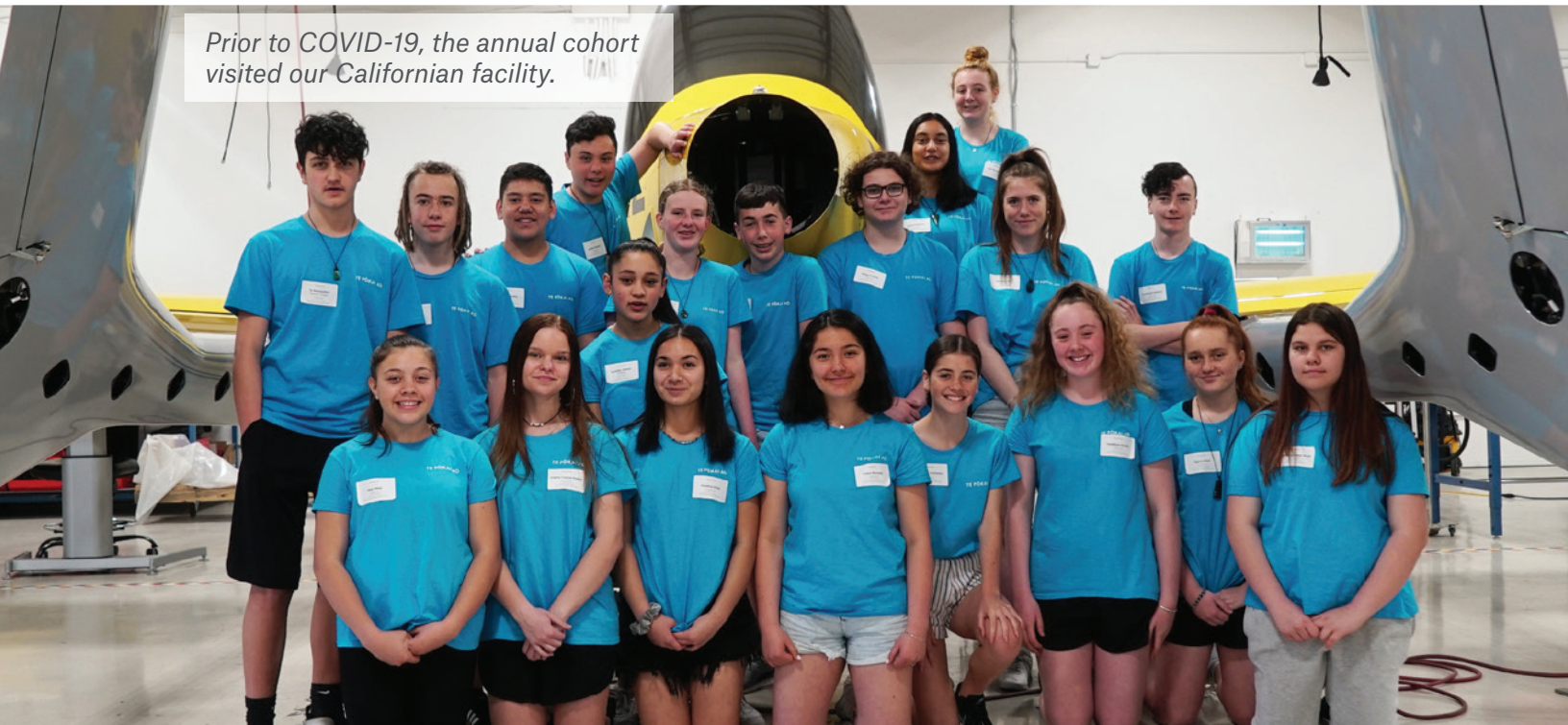
Conclusion

The actions taken by the AAM industry today are crucial to what that future will look like. Social Acceptance and community engagement are a critical element to the collective success of this new, promising industry.

As an industry leader, Wisk has been actively engaging with stakeholders, local communities and governments for many years. The key learnings we've developed throughout this effort have shaped our process and led to the development of our guiding principles: safety, equitable and inclusive, accessibility and trust, and evidence-based. We employ these principles throughout every aspect of our community engagement efforts in what we affectionately call the "Wisk Way."

However, every community and group of stakeholders is different and we recognize that the Wisk Way is not the only way. As communities and stakeholders evolve, so too must social acceptance and community engagement efforts. It is also important to remember that social acceptance is not preserved with time, but something that must be continuously worked on to maintain its currency.

Only through active, genuine engagement with stakeholders, communities and governments, will we be able to realize a future where safe, all-electric flight is possible for all.

About Wisk

We believe in a world where less time getting there means more time being there.

We are driven by innovation and committed to safety.

We're working toward a future where you'll be able to safely soar over traffic and get to where you're going, faster. Because everyone has somewhere to be, someone to see, and now—a better way to get there.

Our journey began with Kitty Hawk in 2010, and it's where our self-flying air taxi was born. Since we first took to the skies, we've logged 1,500 test flights with full-scale aircraft.

Wisk was established in 2019 as a joint venture between The Boeing Company and Kitty Hawk Corporation, two leaders in aviation who are shaping the future of mobility. Headquartered in Mountain View, CA with locations in Atlanta, GA and New Zealand, our vision of delivering safe, everyday flight for everyone is closer than ever to becoming reality.

Learn more at: wisk.aero

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