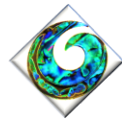




GRID Pacific



HAKAMANA



realityvirtual **≈ RIVER**



TE HĀ VRAR Alliance

SENTIO ERGO SUM

Sharing Cultural Treasures with the World

p. TE HA VRARA Contents

2. TE HA VRAR Alliance
3. Global Reach Initiative [GRID]
6. TE HA Moana – Ocean Voices [Language]
8. Creating Unique Cultural Treasures
9. Supporting Cultural Conservation
10. Ethos & Approach
11. Auckland City VR Experience
12. Pou Kapua VR Production
14. Cultural Content
15. Cultural Tourism
16. TE HA VRAR | GRID Team
17. Capabilities / Experience / Expertise
18. Capability: Design
19. Capability: Tech Dev / Data Science
20. Capability: VR / Immersive Experiences
21. Capability: Media Production
22. Capability: Business / Strategy / Development
23. go there ... before you get there ...
24. TE HA VRAR – Links / Contacts

TE HĀ VRAR Alliance

Founding Members

Global Reach Initiative [GRID]

Tania Wolfgramm

Pou Kapua Creations

Wikuki Kingi

Reality Virtual

Simon Che De Boer

River | IDM

Isaac Rolfe

TE HĀ - Blueprint for Transformation

Prepared by Tania Wolfgramm, Director

TE HĀ VRAR Alliance

E: tania.wolfgramm@gmail.com

T: +64 21 0876 1400



SENTIO ERGO SUM

TE HĀ VRAR Alliance

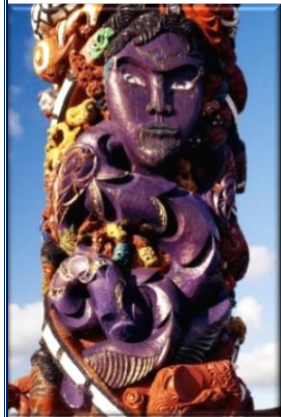
Sharing Cultural Treasures with the World



What TE HĀ VRAR Alliance can do for you...

...we can bring your dreams to life in Virtual Reality!

TE HĀ Virtual Reality & Augmented Reality Alliance (TE HĀ; TE HĀ VRARA) creates wonderful cultural treasures in reality and virtual reality. These cultural treasures will express stories of your lands, people, histories and legends. We will create the best multisensory experiences and technological adventures that will change the way people sense the world; awakening and strengthening their relationships to place, space, humanity and nature. With a culturally diverse team and holistic outlook, **TE HĀ VRAR Alliance** comprises agencies, entrepreneurs and technology experts passionate about the innate value of storytelling and immersive experiences. We combine the latest in digital innovation and world-class Virtual Reality (VR) technology to create incredible ‘being there’ digital and online experiences and platforms to help shape our era. We have a unique skillset that integrates cultural identity, VR integration, digital innovation, and brand strategy, to create beautiful, bespoke, meaningful VR, AR, and digital experiences. To achieve this, we have streamlined the process of entity, asset, object, art, and environmental capture (built and natural), delivering ultra-realistic real-time central graphics (CG) experiences, combined with the ability to create a range of online experiences. Our photogrammetry to virtual reality pipeline has been perfected into an art. We are effectively encapsulating reality in all its visual nuance, creating nothing short of a ‘being there’ sensation for real-time VR applications. This process is ground-breaking for digital storytelling, visual effects (VFX) cinematography productions, innovative viral marketing strategies and end-user experiences alike.



**I AM
MATAKEREPO**

**I am blind
Yet I can see all
I am from the past
Yet I can gift you
a vision of
the future**

Combined with our experience and expertise for digital storytelling, we can create incredible user experiences using digital innovation and online development – whether through customised websites that incorporate VR, video and imagery, login platforms, multilingual elements and more...

Collectively, we have decades of experience across multiple capabilities including design; data science and analytics; technological and platform design and development; immersive (Virtual / Augmented / Mixed Reality) experience technologies; media production and product development, with great process methodologies to bring your vision to fruition.

**TE HĀ are ancient oceanic words that mean
“the breath of life that connects us all”**

HAKAMANA sparks these within you ...

HA - your breath of life that connects all living things

KA - your fire and energy to transform

MA - your light and presence of being

NA - your relationships and connections

HAKA - your fire dance of life and energy

MANA - your leadership, strength and power

HAKAMANA - creative process to realise your dreams



GRID Pacific

GLOBAL REACH INITIATIVE

global reach
initiative

TE HĀ VRAR Alliance and the Global Reach Initiative Team, in collaboration with our global partner tech giant Google Earth and Street View, aim to transform Pacific countries into 21st century powerhouses. With the latest technologies from Google Street View, we will capture panoramic high-resolution imagery, accurate 3D depth information, and GPS and GIS location data that is processed, interfaced with Google Maps as web and mobile applications, and displayed in Google Earth.



Global Reach Initiative ‘whole of country’ solutions support the vision of a more progressive and future focused Pacific, whilst staying grounded in strong cultural legacies, traditions, worldviews, and knowledge systems. The people of the Pacific will be proud to showcase their wonderful countries to the world, while building resilient infrastructure and supporting technological systems that will help them to achieve great outcomes in socio-cultural, spiritual, and environmental health, wealth, and wellbeing.



The Global Reach Initiative team will capture panoramic high-resolution imagery, accurate 3D depth information, and GPS and GIS location of Pacific countries in the next three years. The data is then processed, reviewed, interfaced with Google Maps as web and mobile applications, and displayed in Google Earth. In addition to Street View, the Global Reach Initiative Team can provide state-of-the-art 360-degree video, drone, augmented and virtual reality technologies to bring the benefits of global reach to the Pacific.



Matamaka Island, Vava'u Tonga

Improved 3D mapping tools and imagery will also contribute to enabling better business environments in the Pacific region; more collaboration with Pacific diaspora; assisting the public service with data analysis and management; and opening opportunities for education and tourism. It will provide comprehensive data and imagery for research and development, and support ministries and agencies with climate change management and disaster awareness, risk reduction, response and resilience.



Tonga was the first country in the world to participate in the Global Reach Initiative ‘whole of country’ programme. In 2019 we started GRID Cook Islands in Rarotonga.

Our Global Reach Initiative supports the vision of, “*A More Progressive Tonga and higher quality of life for all.*” The initiative will contribute to Tonga’s national outcomes of providing (1) a more inclusive, sustainable, and dynamic knowledge-based economy; (2) increased ‘whole of country’ engagement; (3) quality infrastructure and technology; and (4) improved data and tools for emergency and disaster management.



GLOBAL REACH INITIATIVE CONTRIBUTES TO GREAT RESULTS

- Comprehensive maps and 3D street imagery accessible in Google Earth
- Globally recognized street addresses
- Accurate GPS and GIS geospatial data (longitude & latitude)
- Family and friends can connect virtually from anywhere in the world
- People who are unable to physically travel (e.g. due to sickness, age, refugees) can visit their homelands and connect with their communities
- Excellence navigation and directions capability (including landmarks)
- Improved environmental and disaster management, mitigation and response (e.g. evacuation routes)
- Mapping infrastructure, facilities and systems (e.g. hospitals, powerlines)
- Increased capability with technology training and business development
- Increased business opportunities with global market reach
- Authentic stories and local knowledge shared on global platforms
- Increased real and virtual tourism revenue through creating excellent cultural tourism experiences in augmented and virtual reality



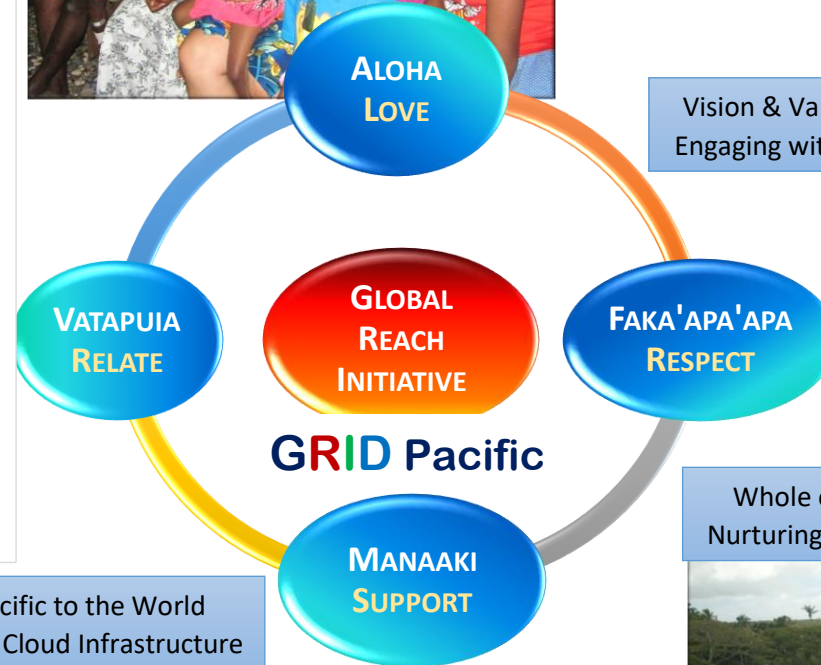
GLOBAL REACH INITIATIVE – VALUES BASED APPROACH

global reach
initiative



Tania with friends
in Solomon Islands

Reciprocal
Relationships
Enhancing People,
Space, Place



Vision & Values – Spirit of Pacific
Engaging with Care & Compassion



Whole of Country Solutions
Nurturing Genuine Partnerships



Tupou College
Sunday Parade

Showcasing Pacific to the World
Secure & Reliable Cloud Infrastructure



Nuapapu Wharf
Vava'u Tonga



GLOBAL REACH INITIATIVE – WORKFLOW & LINKS

Global Reach Initiative

LINKS TO GOOGLE SYSTEM including

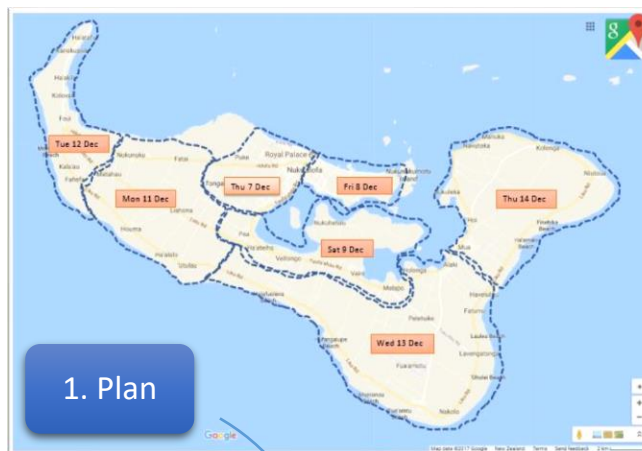
Google Earth - digital version of planet earth
Google Maps - web mapping service
Google Street View - 3D panoramic view
Google Voyager - showcase interactive tours
Google Search - most used web search engine
Google Chrome - freeware web browser
YouTube – most used video-sharing website
Gmail - free email service
Calendar - free calendar & events management
Android – mobile operating system



Showcasing
 our MANA VR
 Experience at
 World Masters
 Games

Your security comes first in everything we do.

Google services including Search, Maps, Street View, and YouTube protects your data with the world's most advanced security platforms.



Street View Camera Tonga

GRID Techies Vinnie & Isaac



GRID Pacific





TE HĀ MOANA

Ocean Voices

Language is a human right. Indigenous languages are cultural treasures, expressions of thousands of years of knowledge and experience of people, place, and space. They represent unique systems and frameworks for understanding the world. The work of TE HĀ VRARA | GRID Pacific supports every opportunity (indeed every year) as one to celebrate Indigenous languages.

Preserving & Promoting Indigenous Cultures & Languages

Indigenous Rights to Language are Supported

Indigenous Learning Spaces (Real & Virtual) are Created

Each Word has an Ancient and Distinguished History

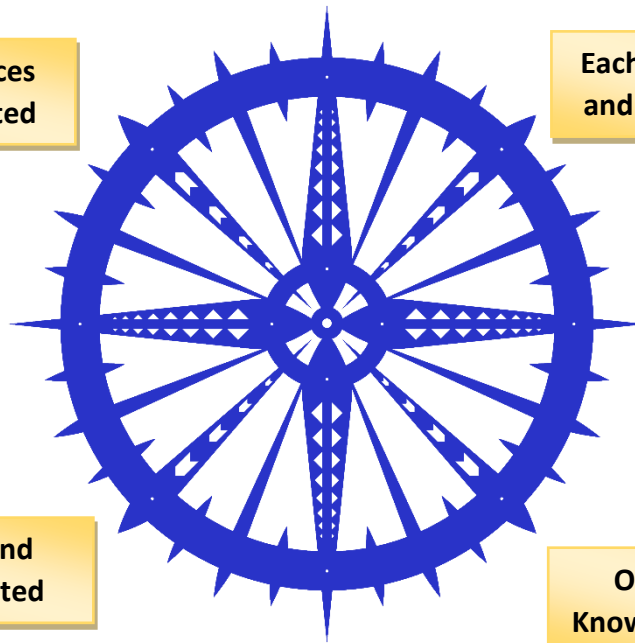
Cross-Cultural Interaction & Understanding is Improved

Indigenous People tell with own Stories & Histories

Language Families and Diversity are Celebrated

Oral Traditions and Knowledge are Honoured

Language of Place, Space, and People is Shared



GRID Pacific

Google earth



Indigenous Pacific Language Layer Initiative

Language	Country	Greeting	Geo Link
Māori	Aotearoa NZ	Kia ora	Manukau
Tongan	Kingdom of Tonga	Mālō e lelei	Vava'u
Rapanui	Rapanui, Isla de Pascua	Iorana	Rapanui
Rarotongan	Cook Islands	Kia orana	Rarotonga
Tuamotu	French Polynesia	Ia orana	Tahiti
Rotuman	Rotuma, Fiji	Noa'ia	Rotuma
Niue	Niue	Fakaalofa atu	Niue
Tuvalu	Tuvalu	Talofa	Tuvalu
Chamorro	Guam	Håfa adai	Guam
Hawaiian	Hawaii	Aloha	Hawaii

GRID Pacific is partnering with local communities and Google Earth to create content that will enable several Indigenous Pacific languages to be recorded and shared across this global platform. This exciting initiative provides a unique opportunity for authentic stories and local knowledge to be shared in these languages, and for families, friends, and people from around the world to hear the sounds and see the beauty of our 'sea of islands'.



Tongan 'Kalia' - Ocean going canoes traversed the Moana

Håfa adai

Talofa

Noa'ia

Fakaalofa atu

Ia orana

Mālō e lelei

Kia orana

Iorana

Kia ora



TE HĀ can showcase how our process of reality capture photogrammetry to virtual reality pipeline has been perfected into an art. We share the results - incredible 'being there' VR experiences!



What makes TE HĀ unique and remarkable?

TE HĀ creates wonderful cultural treasures in virtual reality. These VR and AR treasures will express stories of your culture, lands, people, histories and legends. We create the best multisensory true VR/AR experiences and technological adventures that will change the way people sense the world; awakening and strengthening their relationships to place, space, humanity, environment and nature. With a culturally diverse team **TE HĀ VRARA** comprises agencies, entrepreneurs and technology experts passionate about the innate value of storytelling and immersive experiences.

How will TE HĀ stand out?

The quality of our VR Experiences is amazing. The photogrammetry and volumetric scanning combined with our VR technology pipeline has led to the creation of incredible VR/AR experiences. We can put users on the tip of Auckland's Sky Tower - at 328 metres it is about the same height as the Eiffel Tower! The sensation of stepping out into the air - of flying - is breath-taking. We will also share the Pou Kapua VR Experience of the largest Māori Pacific totem in the world. Pou Kapua is a symbol of Māori / Pacific / Indigenous cultural identity and creatively depicts enthralling stories of ancestral journeys, fascinating legends and stories.



TE HĀ – We support Cultural Conservation

Many of the world's cultural and natural heritage sites are under threat from both people and environmental factors. For example, the rise of global tourism now strains the infrastructure of nations, cities, islands, and local communities who are trying to both promote heritage sites yet also preserve them. Security issues are also increasing in many of our cities. Many guardians of these wonderful and often sacred places are limiting access to them, in an effort to conserve their wonder. Many of these cultural and natural treasures, some built by people, others by nature may not be available for people to see and experience, and TE HĀ VR's dream is to bring the stories, histories, and legends of these incredible treasures to life in virtual reality.

Collectively **TE HĀ** has decades of experience and expertise across multiple capabilities including design; data science and analytics; technological and platform design and development; immersive (Virtual / Augmented / Mixed Reality) experience technologies; digital storytelling, media production and product development, and platform development. We combine the latest in digital innovation and world-class VR technology to create incredible 'being there' digital and online experiences that can help to shape our age – and the hearts of minds of generations to come.

To Sua Trench, Samoa



*"You cannot find a better environmentalist than the Buffalo"
- Leroy Little Bear, Elder, Blackfoot Nation, Professor*

TE HĀ can share some its VR experiences including Pou Kapua VR which puts users directly in touch with the largest Māori / Pacific Totem in the Pacific - placed in VR on a beautiful beach in New Zealand. The quality of the VR production is incredible. We can also showcase our VR experience that puts you at the top of Auckland's Sky Tower - not for those afraid of heights! And we have others of beautiful heritage buildings and more. We will also showcase our volumetric capture and other elements of our VR technology pipeline. This will give visitors a flavour of how wonderful VR experiences of their *own* countries will allow people from all over the world to feel and sense many aspects of their culture, people, places, natural and created treasures - even from the comfort of their lounge! This may trigger a desire in many VR visitors to want to see them in person - and millions will certainly want to share their experience with others.

Importantly, our **TE HĀ** Approach ensures that we work respectfully with you at all times, whereby everyone is treated with honour and dignity, and that we work together to protect all elements of the process, bringing your vision to life in the best way possible.

TE HĀ VRARA
OUR ETHOS & APPROACH

SENTIO ERGO SUM



EXPERIENCING THE CITY OF AUCKLAND IN TRUE VIRTUAL REALITY ... CULTURAL & CREATIVE GENIUS AT ITS BEST!

You start your journey by invitation. The karanga / call to the wharehau / traditional Maori meeting house touches your spirit. You visit magnificent Pou Kapua, and you can teleport to the top to greet Maui. You stroll through sumptuous galleries, laden with amazing art offerings. Then you stop at a beautiful beach, water laps at your feet. You rest a little at an inspiring cathedral, before you move on to Sky Tower. The heights are dizzying. You are on a chair at the very top of the spire. You step off – into air! You are simultaneously terrified and exhilarated as you fly! The views across Auckland City are breath-taking. **You love it! You want more ...**



Note: Refer to page 24 for links to these VR experiences



E HĀ VRAR A



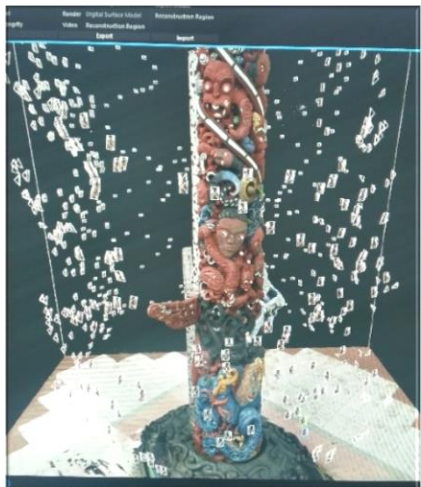
POU KAPUA IN VIRTUAL REALITY ... HONOURING CULTURAL & CREATIVE GENIUS ... EXPERIENCING ANCIENT FUTURES



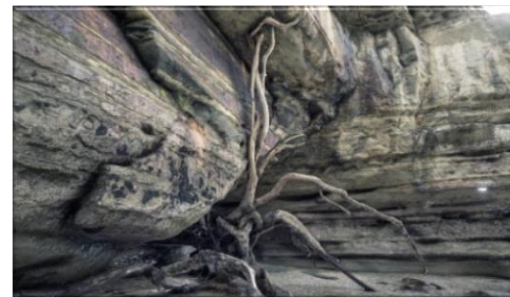
SENTIO ERGO SUM

TE HĀ CHALLENGE

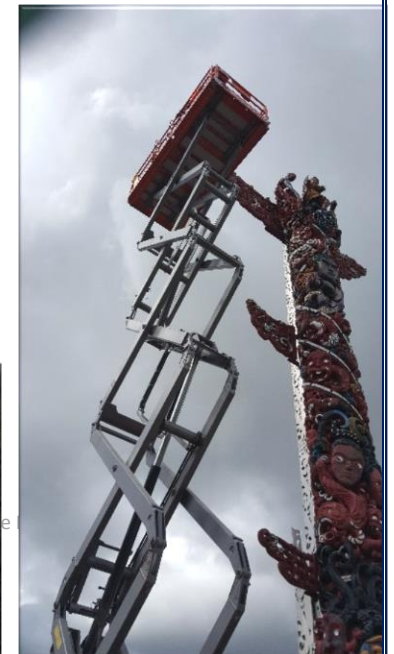
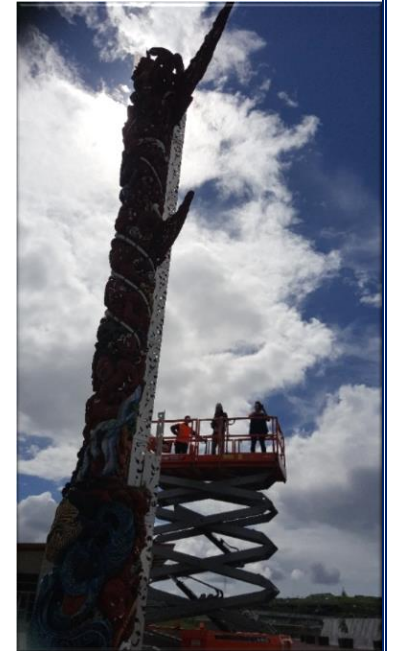
**Moving the Reality
of Pou Kapua into Virtual Reality**



Dream ... Do ... Live ...



15000 incredible images
multiple locations
thousands of hours
trail-blazing technologies
countless sleepless nights ...
... and Pou Kapua is reborn
into the Virtual World





I AM POU KAPUA

Conceived in time immemorial by my parents

Ranginui – Sky Father

Papatuanuku – Earth Mother

I grasp in my hand the Baskets of Sacred Knowledge

Ancestral Knowledge, Life Knowledge

The Baskets I entrust to you

To learn, to know, to share

To live in harmony with nature

To live in peace with each other

People of the four winds, near and far



TE HĀ VRAR Alliance Pr

*Using state of the art
3.5D video and
photogrammetry
techniques we create
experiences that
transcend photorealism
into a sense of truly
'being there'*



Live ...Own ... Love ...





Cultural Content Opportunities

Sharing our stories of the Pacific with the World

Bringing Lessons to Life



Go diving on a beautiful reef in
the islands - reach out and touch



The Global Reach Initiative is a Game-Changer in Education

*"Imagine exploring the coral reefs of the Pacific ... With
global platforms such as Google Expeditions, teachers can
take students on immersive, virtual journeys."*

Taking Field Trips to the Pacific



Take a field trip to the
blowholes – you can
almost feel the spray!





Cultural Tourism Opportunities

The Global Reach Initiative is a Game-Changer in Tourism

“Teleport to new worlds and have incredible adventures with your family and friends.” – Wikuki Kingi, TE HĀ VRAR Alliance

ENJOY THE PACIFIC IN THE REAL WORLD

Boost Pacific Tourism and enhance high-value tourism experiences

“go there before you get there”

- Tania Wolfgramm, Global Reach Initiative | GRID Pacific

ENJOY THE PACIFIC IN THE VIRTUAL WORLD

Create incredible virtual immersive experiences for the global marketplace

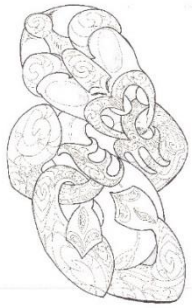
“the ultimate in sustainable tourism” – TE HA VRAR Alliance

Be where whales are born – and swim with them!



TE HĀ VRAR ALLIANCE - CULTURAL & CREATIVE GENIUS HAS NEVER LOOKED SO COOL!

Nurtured with ancestral wisdom,
we are shapeshifters in the cyberflux,
tricksters of technology,
poets, storytellers,
co-creators of new futures ...



Wikuki Kingi
Cultural Symbolologist
Designer, Technologist



Tania Wolfram
Executive Director
Systems Sculptor



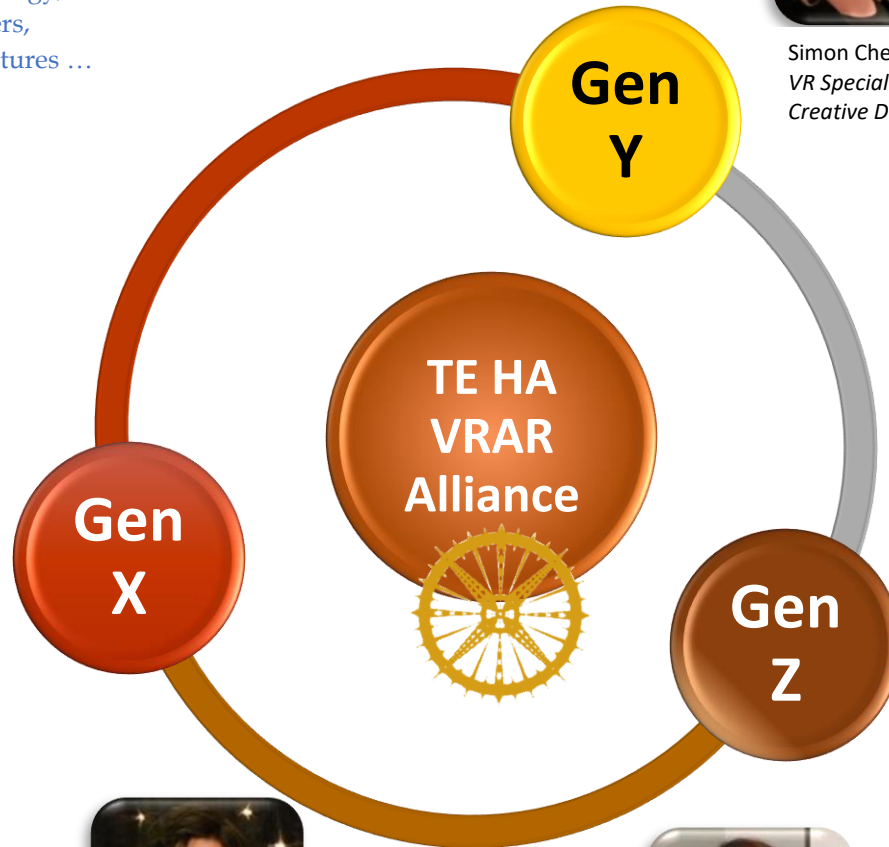
Moka Apiti
GIS Specialist/ UAV
Geospatial Mapping



Dr Rachel Wolfram
Specialist - International
Business & Sustainability

TE HA VRAR Alliances & Associations

- NZ VRARA
- TE HA Indigenous Alliance
- Native Science Academy
- Data Sovereignty Network
- The Cultural Conservancy
- Indigenous Education Institute
- Auckland University of Technology (AUT)
- University of Auckland (UoA) School of Business
- Global Alliances in the Virtual Reality / AR / MR Arena
- Local Tribes / Communities across NZ / Pacific / Globe



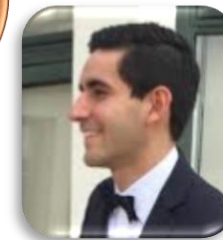
Simon Che De Boer
VR Specialist
Creative Director



Isaac Rolfe
Computer Scientist
Software, Platforms



Rainui Teihotua
Design Specialist
Digital Narration



Vincent Wolfram
Mathematician, Quantum Physics,
AI-Machine Learning, Algorithmist



Ashlin Rolfe
Creative Writer
Law, Pharmacology



Luke Page
Animation, Gaming
Linguistics, Media



Darcy Russell
Social Media Design,
Style, Concepts

Academic Advisors

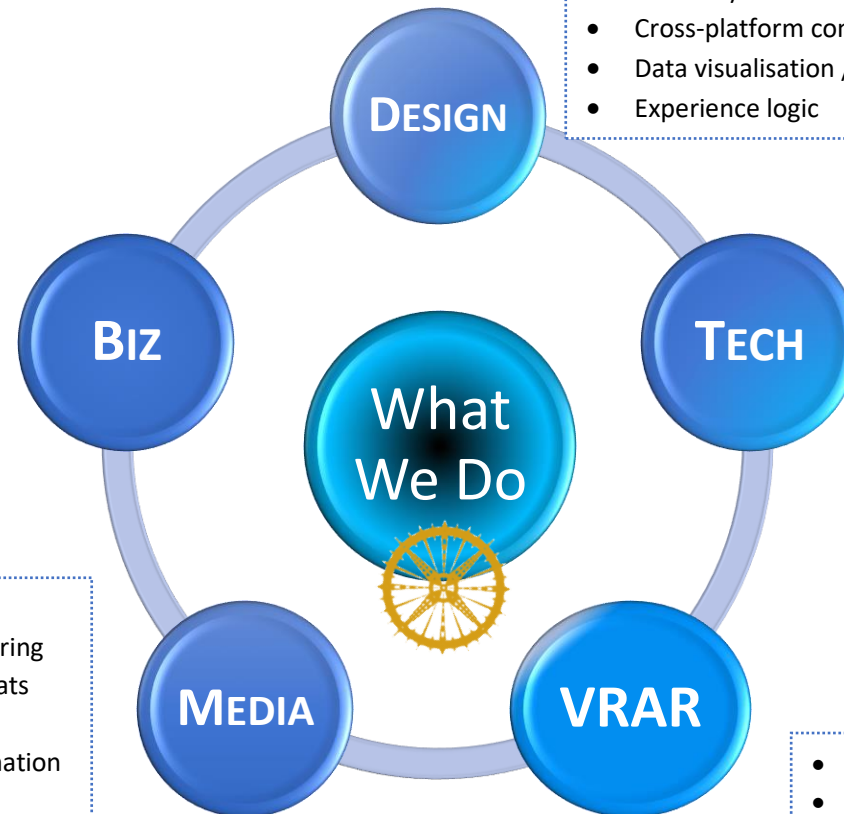
- Dr Ella Henry, Education, Business, Media Production (AUT)
- Professor Pare Keiha, Research, Science, Technology (AUT)
- Warren Williams (Digital Specialist, Waikato University)



We create the best multisensory VR & AR experiences that can change the way people sense the world - awakening and strengthening their relationships to humanity, the environment and to nature ...

- Business & digital strategy
- Product development pipeline
- Interactive services
- Prototyping / proof of concept
- UX, UI, User Research / Analysis
- Digital productisation & monetisation
- Web / Online applications; Streaming
- Dissemination; distribution

- Videography; animation
- Visual and sound engineering
- Scalable to multiple formats
- 360 video production
- Projection mapping; animation
- Editing; post-production
- Performance Measurement
- Optimisation



- Research design, develop, implement
- Full spectrum design methodologies
- VR / Immersive experience design
- Cultural / creative storytelling
- Cross-platform content strategy
- Data visualisation / motion / gaming
- Experience logic

- Computer / data science and analytics
- Data capture, management, integration
- Digital platforms and framework
- VR Pipeline production technology
- Geo-location; SEO and SEM
- Hardware / software development
- Solutions Architecture
- Artificial Intelligence – machine & deep learning – neural networks
- DevOps; API development
- Front-end / Back-end / Full-stack Dev

- Virtual / Augmented / Mixed Reality
- 4D Photogrammetry / VFX cinematography
- 3.5D in-motion volumetric capture
- Robotics & Autonomous Operations
- UAV and Drone cinematography
- Tangible & fiducial marker response systems
- CG; GreenScreen; Voice Over integration
- Motion & gesture responsive systems
- Billions+ dense point cloud data scanning
- Signal Processing; Deep Learning

TE HĀ VRAR Alliance

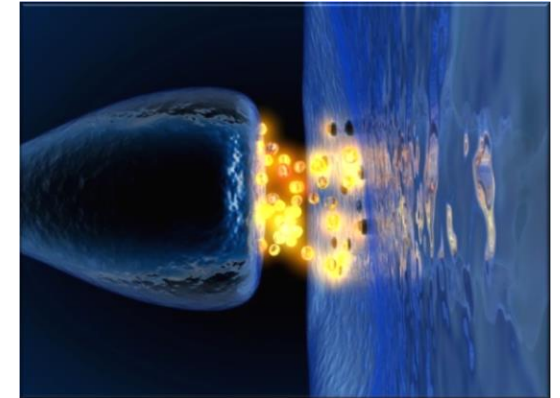
Integrating VR, AR and digital innovation to create immersive experiences and exhibitions



CAPABILITY: DESIGN / RESEARCH

TE HĀ VRAR Alliance has a track record in digital product research and design, and capabilities across multiple channels/devices including web, mobile, tablet, touch table, TV screen, and transformative / VR / AR / immersive interactive experiences. Our capabilities include:

- Full spectrum design methodologies
- Immersive experience design – VR, AR, MR
- Cross-platform content strategy and design
- Content design and research
- Data visualisation / motion / animation / gaming design
- Interaction design
- 3D modelling and printing design



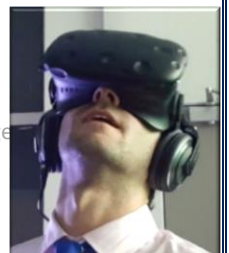
TE HĀ VRAR Alliance, comprising Reality Virtual (RV), River / IDM Agency (IDM) and Hakamana Ltd has several years of experience working in digital design and have designed and hand crafted immersive digital experiences (including VR in the last few years), platforms, user interfaces, experiences, brands and collateral. Design has included 3D animation, game design, 3D modelling, simulation and design (including work with Autodesk Maya) and home automation PC systems using natural language, as well as user interfaces, websites, platforms and digital experiences. Building on decades of knowledge and skills as creative specialists, artists, and designer, our primary focus continues to be the design development of immersive media technologies.

With a background in brand strategy and web design, we understand the importance of incorporating beautiful design into even the most technical of projects, to ensure seamless user experiences and uptake. With experience and both branding and content development, we also understand the importance of using existing brand stories, assets and narratives consistently and correctly to build ongoing trust and credibility with a target audience. Whether it's working with lifestyle brands such as Mini, industry brands such as Counties Manukau DHB or a number of SME's, we have extensive design experience.

While we are researchers, designers, and developers, we are also Māori / Pacific / Kiwi and have been designers and creators of wonderful taonga / treasures, providing rich and deeply meaningful content and stories for the people of Aotearoa, the Pacific, and the world to experience. Acknowledged as world leaders in the creation of cultural treasures, and building on decades of skills and experience, we are moving our creation of incredible cultural content from 3D to 3.5D+

"We believe that virtual and augmented reality will play a large role in making STEM education more accessible – and more fun – for a wide group of students. Completely new pathways of discovery, both for science and education, will come from these innovative technologies."

Rita Rodriguez, Program Director, National Science Foundation, USA





CAPABILITY: TECHNOLOGY DEVELOPMENT / DATA SCIENCE

TE HĀ VRAR Alliance has extensive knowledge and experience in data analytics designing metrics to capture behavioural data, as well as data gathering and metrics from other sources, dashboard development, data insights, KPIs, and general analytics using a variety of tools. Our capabilities include:

- Computer / data science and data analytics
- Geo-location – blended physical / digital experience analytics / SEO and SEM
- Front-end development (HTML, HTML5, CSS, JavaScript, BrightSign suite etc)
- Back-end development (Ruby, Python, PHP etc)
- Full-stack development / Cross-platform product development
- AI - machine learning - deep learning – neural networks
- Open source/open standards
- Solution architecture: research and development
- DevOps / API development and management
- Mobile and tablet development using open web standards



With a speciality in bespoke online development, API integrations and data management, **TE HĀ VRAR Alliance** has a wealth of knowledge and experience when it comes to capturing, managing, and interacting with data. We have experience both integrating existing data and analytics tools into online solutions, as well as capturing custom data to transform and display back to the user as needed. The Alliance has worked extensively with GIS systems (e.g. for environmental scanning); completed comprehensive research and data analytics about geo-location music streaming platforms about distributing content using natural language.

We also have a strong emphasis on advanced robotics and autonomous operations for large data acquisition of 3D environments. We have developed our own digital frameworks and platforms based off cutting-edge open source technology so that we're not limited in the online experiences we can create. And we have implemented our own strategically-led workflow method that allows for digital innovation and creativity alongside risk management and mitigation.

Our real strength, **TE HĀ VRARA** with IDM and RV has a history of architecting, designing and developing a diverse range of visually and technically powerful web solutions, platforms and online technologies. We have designed and developed our own digital frameworks and platforms based off cutting-edge open source technology so that we're not limited in the online experiences we create. We have implemented our own strategically-led workflow method that allows for digital innovation and creativity alongside the risk management and mitigation. From forensic accounting for sporting institutes through to managing data for lifestyle brands such as Pump or managing hundreds of thousands of products and integrating artificial intelligence for companies such as Real Groovy, we can manage and streamline the most complex of datasets.



CAPABILITY: VIRTUAL REALITY - IMMERSIVE EXPERIENCES

TE HĀ VRAR Alliance has streamlined the process of asset and environmental capture, delivering ultra-realistic real-time CG experiences, combined with the ability to create a range of online experiences. Our photogrammetry to virtual reality pipeline has been perfected into an art. We are effectively encapsulating reality in all of its visual nuance, creating nothing short of a 'being there' sensation for real-time VR applications. This process is groundbreaking for digital storytelling, VFX cinematography productions, innovative viral marketing strategies and end-user experiences alike. Our capabilities, experience, and points of difference include:

- VR development and production
- 4D Photogrammetry / VFX cinematography
- Motion and gesture responsive systems
- Tangible and fiducial marker response systems
- Experience and interaction design for blended physical and digital experiences
- Motion graphics / Photogrammetry / UAV / Drone / 3D scanning
- CG; Green Screen; Voice Over integration
- Wearable audio, visual, and haptic devices development
- 6° of movement 'true VR' cinematography - photo-realistic 3D asset and environment acquisition for VFX / VR / Desktop / Mobile and Web applications.
- 3.5D Volumetric human performance capture at a commercially acceptable compression ratio for rapid successive content creation.
- In-motion time-lapse techniques, FPV (first person view), head tracking stereoscopic 360° cinematic capture, in-motion 4D photogrammetry techniques and virtual reality (VR) cinematography / simulations.



Darcy testing the MANA VR Experience in HTC Vive

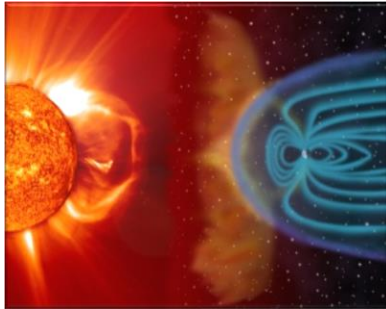
Unique post production and signal processing techniques including the development of Deep Learning image enhancement and automation throughout our 3D pipeline for PBR workflow. Our technology delivers the ability to get far more intimate with assets and environments in virtual reality and online experiences than you ever could in the real world - lean right in and admire every nuance and every paint stroke in your own personal universe or engage in a number of digital experiences. From a real-world environment, to billions plus dense point cloud data scan, to an oculus rift streaming at 90fps our workflow / pipeline retains all the intricacies of the original scene. With 3.5D in-motion volumetric capture, we can encapsulate a natural feeling human performance.

When paired up with our photo-realistic environmental scans, combined with our experience for digital storytelling, we are able to create incredible user journeys and experiences using VR, AR, digital innovation and online development. We can incorporate any VR, AR, video and imagery, sound and linguistic elements into our bespoke platforms and websites. Photogrammetry partnered with Deep Learning is another avenue we strongly focus on. For our Alliance it's all about signal processing, AI enhanced super resolution, and procedural photogrammetry, industry typology surveying utilising ground station waypoint navigation, HDR video – the latest technology utilised and integrated to bring the best VR to the world.



CAPABILITY: MEDIA PRODUCTION

TE HĀ VRAR Alliance has extensive experience in producing compelling stories in multiple locations and channels, timely production and post-production services, with high production values. Our capabilities include:



- Videography / Animation
- Editing / colour-grading / post-production
- Projection mapping
- Public digital experience design / production
- 360 video production
- Sound design and composition
- Sound recording / engineering / subtitling / transcription

TE HĀ VRARA have worked extensively with videography, animation, visual and sound design, with core members being sound engineers and specialists. Diversity across video production outputs is integral to many of the projects undertaken by IDM. The Alliance includes Reality Virtual whose ultra-realistic 3D capture of pristine artwork with UAV and ground-level based photogrammetry of assets & environments of significance is their expertise. Digital cultural preservation of Indigenous communities and heritage sites, nostalgia, captivating VR and AR storytelling and engaging online journeys of times past, interactive experiences, gaming or typology surveying.

TE HĀ VRARA through Reality Virtual have also streamlined our ultra-realistic photogrammetry to virtual reality pipeline into an art with unique post production and signal processing techniques including the development of deep learning image enhancement and automation throughout the 3D pipeline for PBR workflow; virtual reality, mixed reality, augmented reality; applications for immersive media technologies. These are scalable (e.g. back to 360° video production).

TE HĀ VRARA through IDM has also developed a bespoke web framework built on top of the open-source laravel platform so that we are able to truly customise all aspects of a website or online application and have also developed our own project management process that combines creativity with risk management to guarantee results. Our projects have included international project management platforms for groups such as Oceania Football Confederation working with Unicef, bespoke E-Commerce solutions for brands such as Real Groovy and Innocent Packaging, lifestyle digital experiences for brands such as Pump and Mini, membership platforms, websites and membership experiences for companies such as Auckland Badminton and Motivate Me, to name a few. We have also integrated hardware API's into our web projects to break down the barrier between digital technology and real-life experience.



CAPABILITY: BUSINESS – STRATEGY / DEVELOPMENT / TRANSFORMATION

Team members of **TE HĀ VRAR Alliance** also have degrees in Commerce, Business, Management, Design Processes, R & D Methodologies, Animation and Computer Science. They are strategists, entrepreneurs, with extensive skills and experience design thinking, lean, and agile methodologies. Tania is also the founding member of the Aotearoa New Zealand Evaluation Association and evaluation specialist. With business strategy and digital strategy at the core to IDM's approach to digital innovation, IDM's strength in digital productization, digital monetization, digital strategy and business have supported the ongoing success of their bespoke digital projects and set a foundation for success with **TE HĀ VRAR**. Reality Virtual also brings 15 years of experience as a leading-edge technologist, is an expert in visual capture and photogrammetry and VR design and development. They also bring several years of experience with games concept, design, and development.



TE HĀ VRAR Alliance have a great track record in digital product and services capability across multiple channels/devices including web, mobile, tablet, TV screen, or transformative or immersive interactive experiences. Rapid prototyping, iteration, testing, openness, modularity, usability, personalisation, sustainability and flexibility are important factors for our digital products. Having worked with a range of companies on digital innovation from start-ups to existing incumbents, IDM have many years' experience working with agile business models and agile development approaches, prototyping, MVP demos, and more. Our capabilities include the following:

- Business and digital strategy; VR and Platform Product development pipeline
- UX, UI, User Research / analysis; Prototyping and proofs of concept
- Web / Online applications; Streaming; Dissemination / distribution

WORKING WITH MUSEUMS

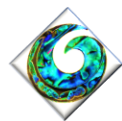
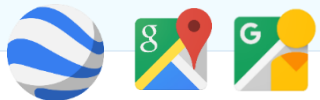
TE HĀ VRARA has extensive experience working with museums, including curating at Waikato Museum, designing and developing both permanent (e.g. Te Winika Gallery) and temporary exhibitions events. We have worked with the Auckland War Memorial Museum who will include MANA VR XP I (Pou Kapua in VR) as the museum's first VR acquisition. We have also worked with Te Papa Museum of NZ on exhibitions, and we will continue to connect with museums internationally through our global alliances (e.g. Native Science Academy, International Education Institute, **TE HA VRAR** Alliance, Exploratorium CA, National Museum of the American Indian, The MET New York). Strengths of **TE HA VRAR** also include unique post production and signal processing techniques including the development of deep learning image enhancement and automation throughout our 3D pipeline for PBR workflow; development of our own digital frameworks and platform technology so that we are not limited in the online experiences we can create; and implementation of our own strategically-led workflow method that allows for digital innovation and creativity alongside risk management and mitigation.

go there ... before you get there ...



Vaka Moana Pacific Voyagers, Borabora

global reach
initiative



realityvirtual

≈ RIVER



POU KAPUA



GRID Pacific



TE HĀ

VRAR Alliance

SENTIO ERGO SUM

Sharing Cultural Treasures with the World

Key Contact:

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Blueprint for Transformation & Profile

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Reality Virtual:

www.realityvirtual.co

River / IDM:

www.weareriver.nz

Smart Path Healthcare:

www.smartpathhealthcare.com

Planet Māori:

www.planetmaori.com

Images courtesy Pou Kapua Creations, Reality Virtual, IDESIGN
Media / River, HAKAMANA, Pacific Voyagers, NASA, Google Images



The Star Compass of TE HĀ VRAR Alliance is an instrument born of the ancient voyaging traditions of the people of the Moana – our great Pacific Ocean.

The Star Compass helps us to navigate across vast oceans to distant horizons. TE HĀ VRAR Alliance invites you to journey with us as trailblazers – as we create and experience future realities.