SKYDIVE QUEENSTOWN SMS - DEVELOPING DATA

nzone SKYDIVE

SKYDIVE WANAKA NZ

This is Skydive Queenstown

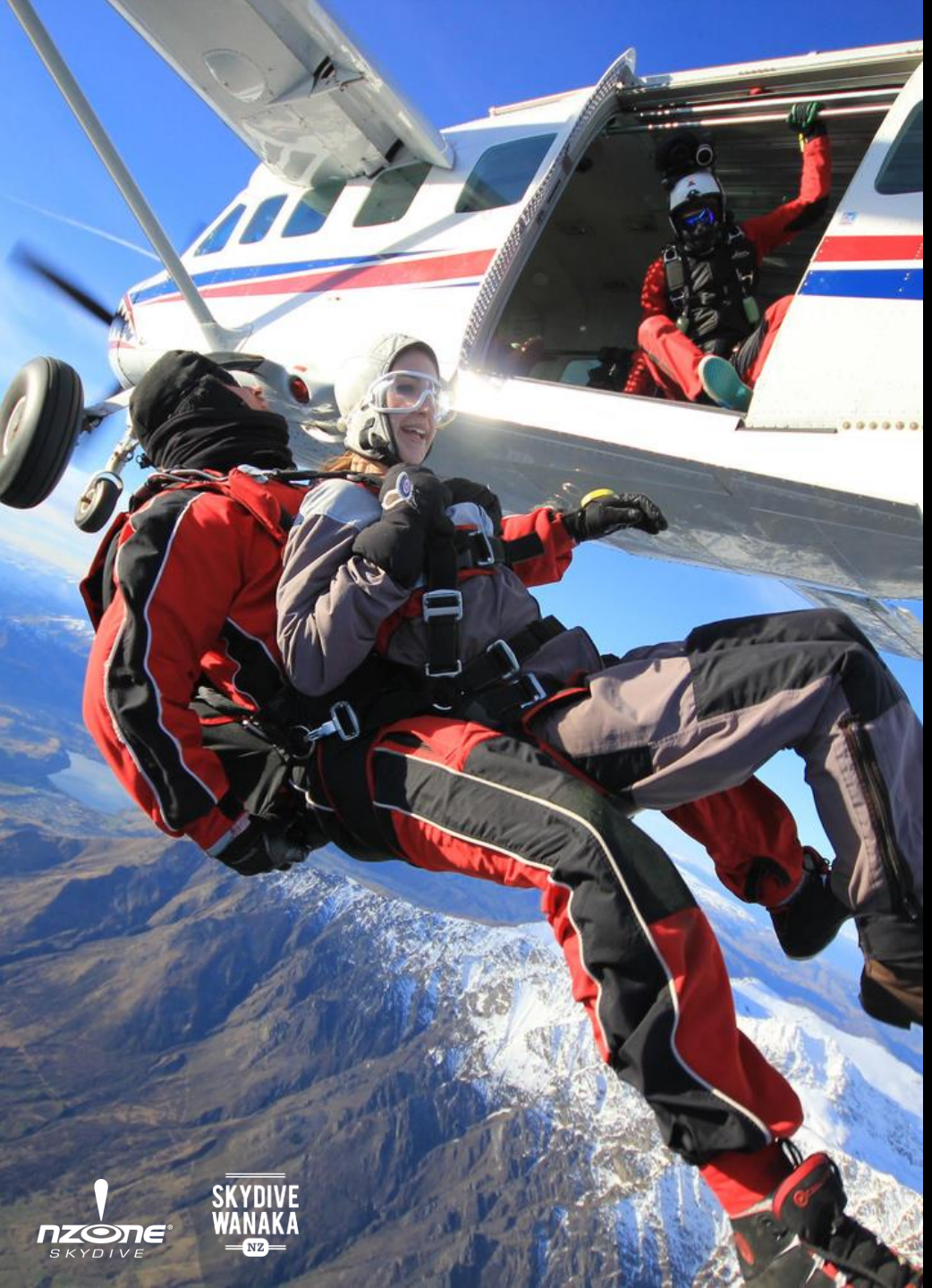
LOCATIONS

3 Drop Zones in the Southern Lakes Region

- NZONE Skydive
- Skydive Wanaka
- Skydive Southern Alps

Queenstown Reservations / Shop

Pre-covid this organisation performed over 90,000 parachute descents each year.



This is Skydive Queenstown

KEY OPERATIONAL RESOURCES

3 x Drop Zones

4 x Caravan C208B aircraft with Texas Turbine Supervan conversions

75 x UPT Micro Sigma Tandem Assemblies

80+ Personnel

Applicable Regulations

Government Regulations

CAA Rule Part 115 Adventure Aviation – Certification and Operations

CAA Rule Part 100 – Safety Management

Health & Safety at Work Act 2015

CAA Part 149 Aviation Recreation Organisations Certification

New Zealand Parachute Industry Association

Key Risk Themes for Skydiving

- Gravity, falling and the ground
- Meteorological conditions
- Airworthiness of Tandem Assemblies
- Airworthiness of Drop Aircraft
- Effective ground support
- Maintaining and performing proper procedures
- Performance variances of parachuting equipment
- Operating environment – other airspace users
- Human Factors

Pre-SMS Health & Safety Systems

1997

My personal SMS journey began with short-term work in the mining sector in Australia.

This was very H & S focused.

2003-5

Jubilee's Cosmos Underground Mine

Joining an underground mine, I was asked to join and then run the emergency rescue team.

2005-7

Skydive Wanaka

I joined as a parachute packer and set up the occupational H & S system at Skydive Wanaka including reporting system

2007 - 2017

We continued to evolve the H & S systems at Skydive Wanaka.

This includes -

- **3 different iterations of reporting systems**
- **Designed an electronic system to be constructed**
- **Performance & safety data analytics and operational advice.**

2015 - 2017

NZONE Skydive & Skydive Wanaka are acquired by what is to become Experience Co. The NZONE and Skydive Wanaka operations are merged.

The OHS mechanisms and reporting processes are merged. As are the performance and safety data analytics.

The SMS journey so far

Nov 2020

Implemented SMS into the Skydive Queenstown Operating Certificate as a requirement of CAA's incoming Part 100.

Feb 2021

Donesafe reporting system is completed and brought online.

Developed data analysis, performance tracking and established performance targets.

Began analysing the Skydive Australia data also.

2022

The first large update of the SMS featuring adjustments that

- **Enhanced efficiencies**
- **More accurately reflected workflows.**
- **Updated a variety of associated systems**
- **Updates to reflect the on-going changes to Donesafe**

2023

Using the SMS model I had continued to develop in the NZ businesses I guided the development and implementation of a further 4 SMS's in the Experience Co group.

This allowed a different perspective of the SMS I wouldn't normally see.

These lessons are then built back into the Skydive SMS model.

2024

Further developing data collection, analysis.

Learning about the advantages of employing Power BI and AI .

Developing education / coaching capabilities.

SMS strategy – Establishment

1. ENSURE REGULATORY COMPLIANCE

The first part of the SMS strategy is to ensure compliance with the regulations. Ensuring compliance & conformance.

2. CREATE AND MAINTAIN A HIGHLY EFFECTIVE REPORTING SYSTEM

This enables information to be entered into the SMS. This covers -

- Hazards
- Occurrences / near misses
- Risk assessments
- Management of Change
- PCBU / stakeholder matters
- Compliance / conformance matters
- Sector / regulator matters

SMS strategy – utilize it

3. DATA PROCESSING & ANALYSIS

Develop the ability to analyse and learn from the data.

It's easy to lose perspective on the data.

4. SAFETY AND HUMAN PERFORMANCE EDUCATION / TRAINING / COACHING

A lot of investigation findings point to an execution or behavioural deficiency.

Developing the capability to deliver high performance coaching into the operational teams.

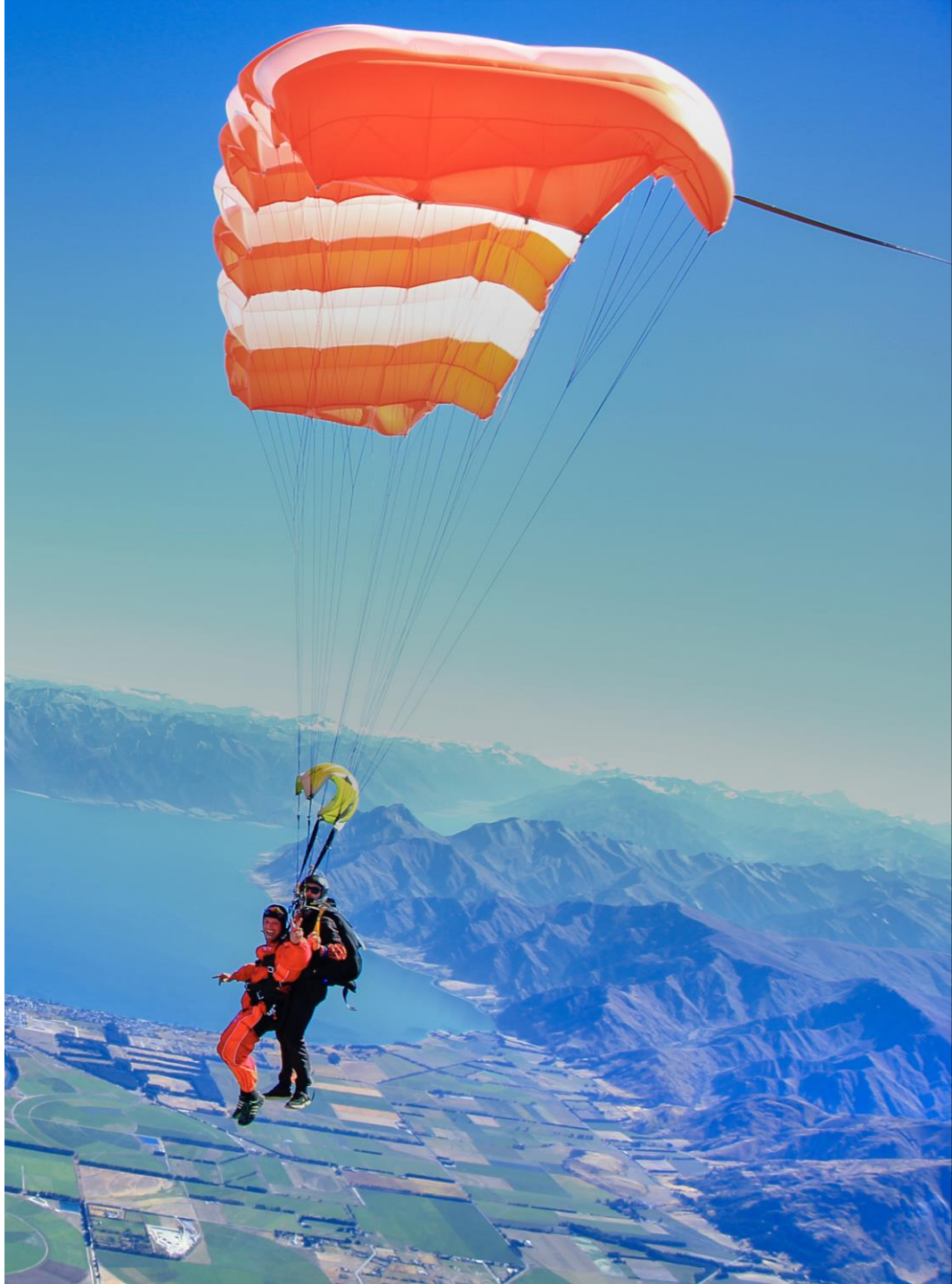
Data collection

Skydive Queenstown uses the Donesafe reporting platform for occurrence reporting

We have configured a tailor-made range of reporting forms including

- 6 main forms
- 10 sub-forms

All forms also automatically reconfigure themselves as you input information, to ensure the right information is captured



Data collection

- In the instance of a parachute occurrences Donesafe collects the 28 data points required for regulatory reporting.
- It also collects an additional 17-21 data points
- This data set extends back over 36 months, and we have less thorough data extending back more than 10 years.
- We also incorporate the data from, and benchmark against Skydive Australia which is part of the Experience Co group. We have been working to standardize equipment, processes and the SMS data sets.

Data Analysis and Standardized Outputs

We presently use the data to produce the usual information

- measure our past performance
- track current performance
- establish targets for coming periods.

We actively track 4 key performance indicators. These categories are -

- Malfunctions Tandem
- Malfunctions Solo
- Hard landings
- Injuries

We also track aggregated causation data

Limitations of Data

At the end of the day there are limitations to the usefulness of data.

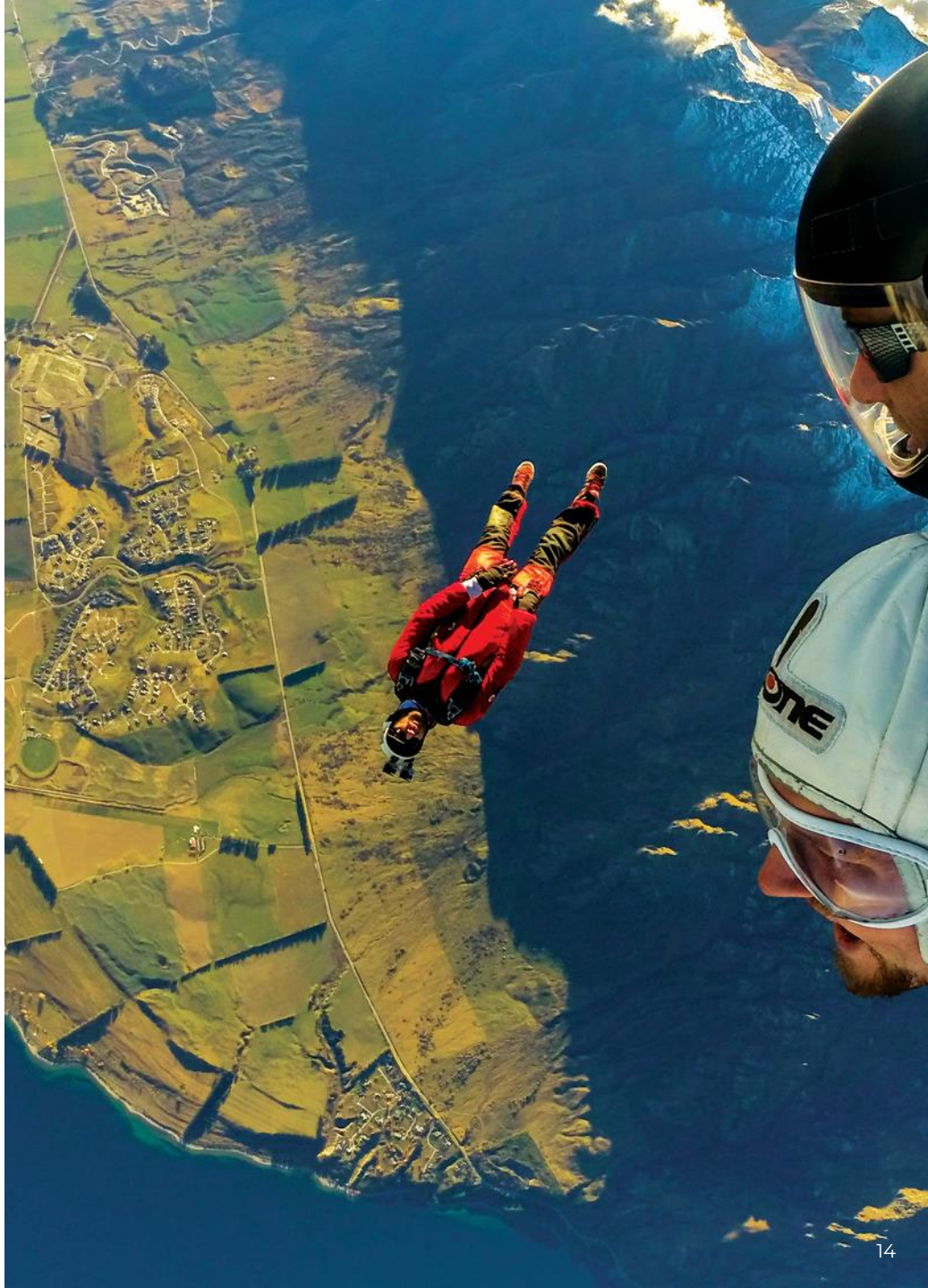
- Often it is best used to investigate or reinforce a hunch.
- We often find an investigation provides an insight, that then leads to further investigation and then a discovery.
- Data also proves you're wrong. Be prepared to be wrong.
- You've got to be carful you ask the right question in the right way.
- Human factor causation data can be difficult to collect accurately because it relies on a detailed investigation and/or aware personal.

Having pointed out the limitations of data it's also true that it's impossible to prove or properly investigate anything unless you have good quality information.

Future of Data Analysis

- Power BI already processes some aspects of our safety data. We are expanding this to give us access to better tools - to more easily dissect data.

- We’re currently exploring AI to discover what analytical advantages it can give us. Specifically, to analyse the data collected in free text fields and look for trends that may be difficult for a human to identify. Acknowledging it can be difficult to retain clarity and find commonality while reading hours worth of occurrence descriptions and causation summaries




BLUE SKIES