

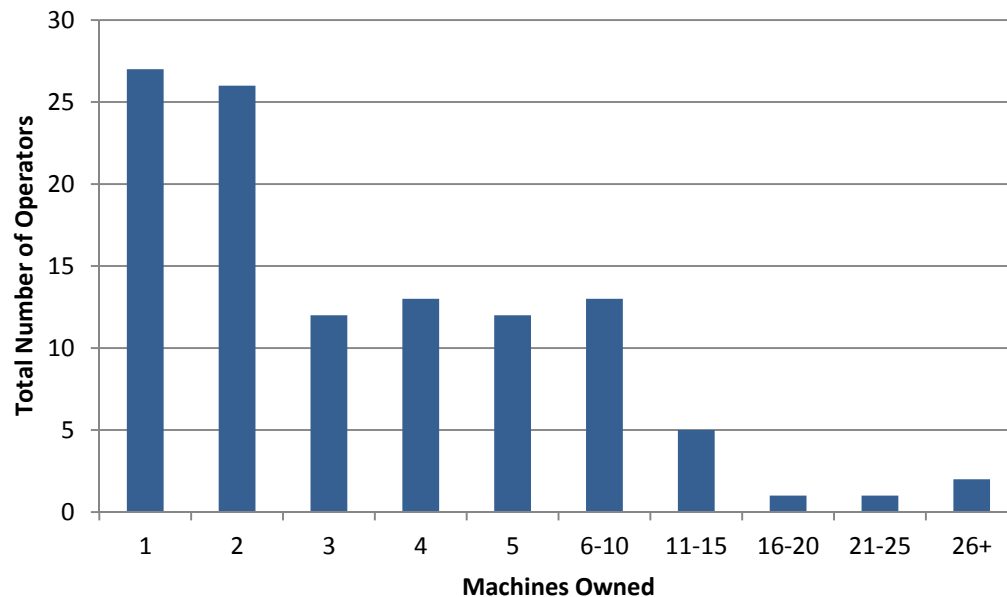
# New Zealand Helicopter Industry: Safety Update



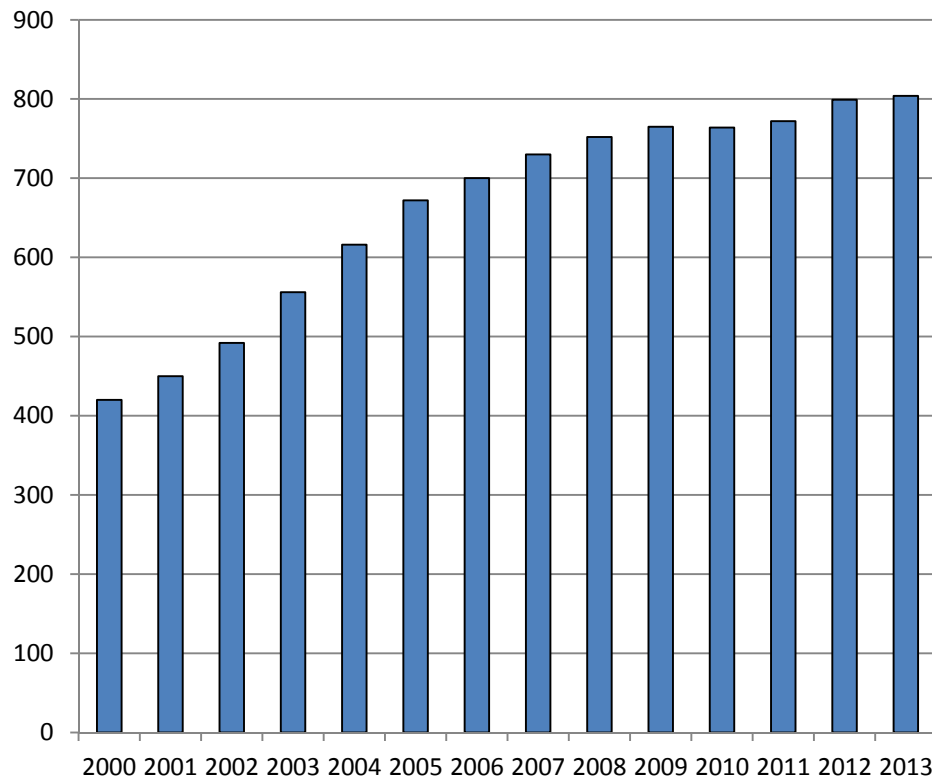
# The NZ Helicopter Industry: a system

- 🚁 137 commercial operators
- 🚁 512 helicopters owned
- 🚁 47% own two or fewer machines
- 🚁 124 currently active ATPL holders
- 🚁 1237 currently active CPL holders

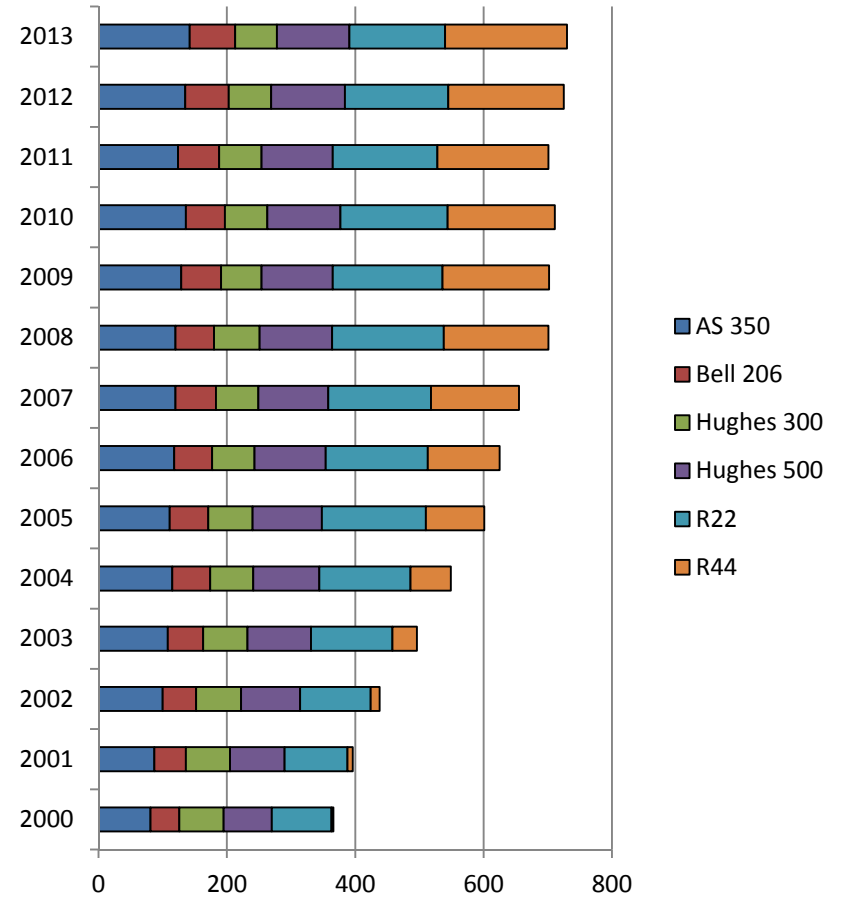
Operator Sizes by Helicopters Owned



### Total Helicopters on the Register by Year

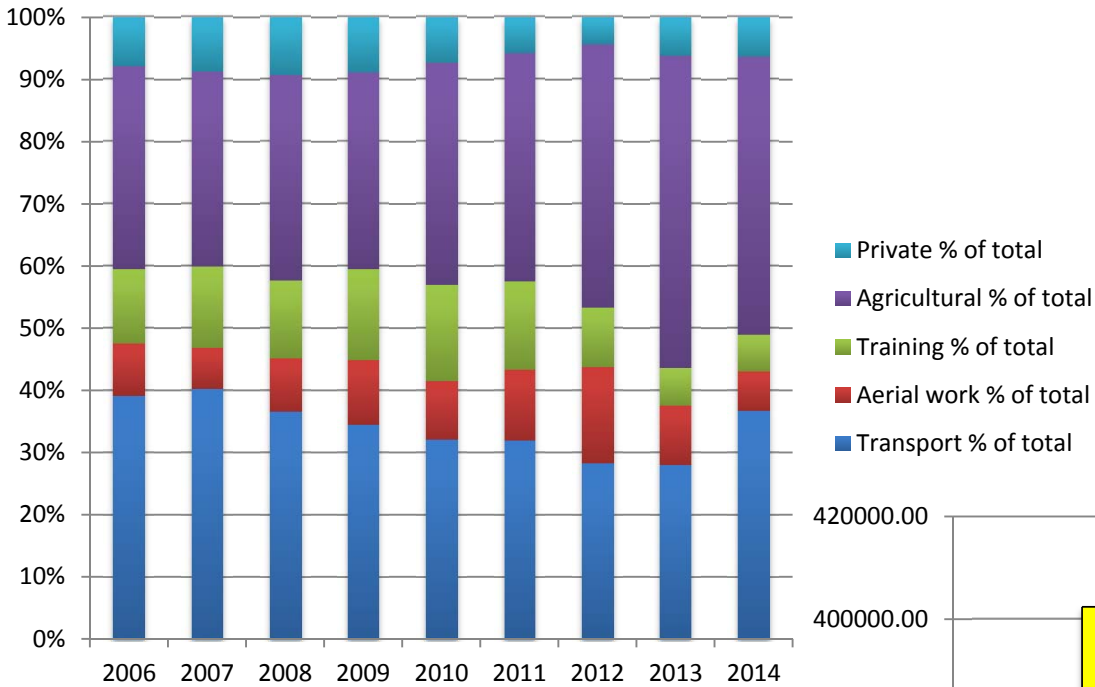


### Main Models on the Register by Year

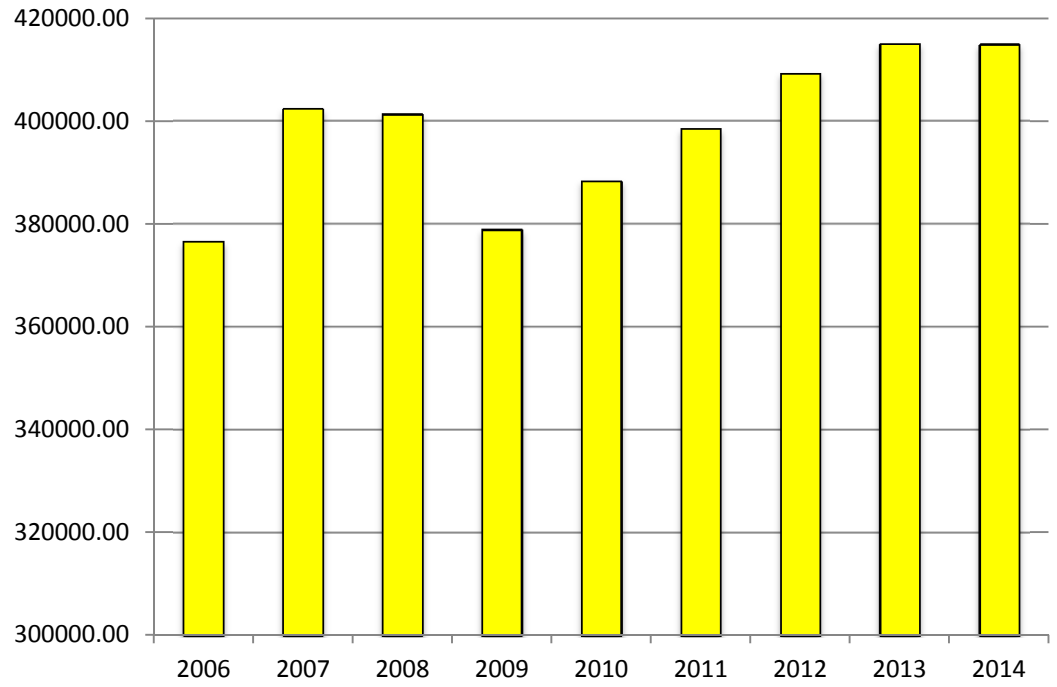


# The New Zealand Helicopter Sector

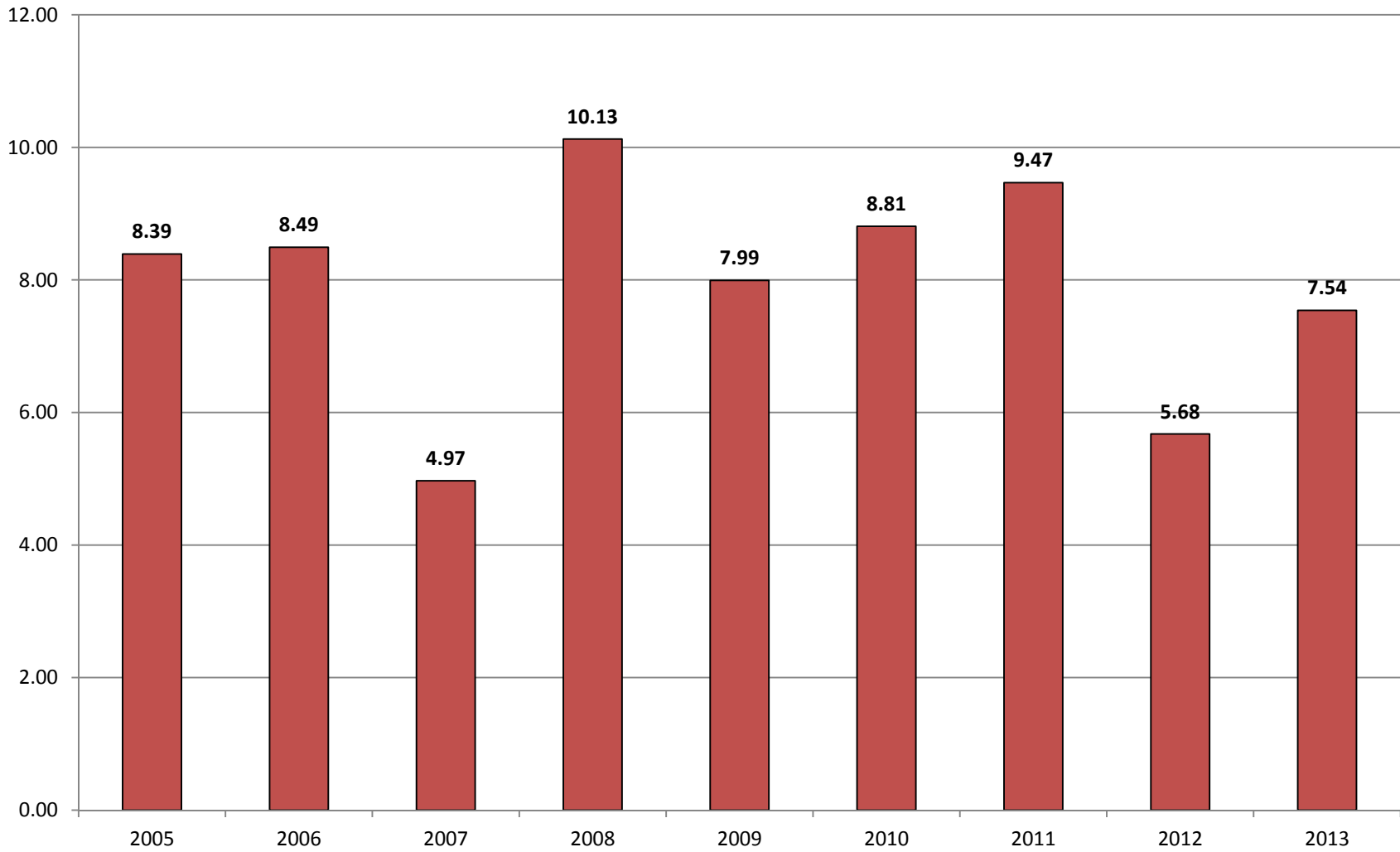
Percent of total hours by flight activity



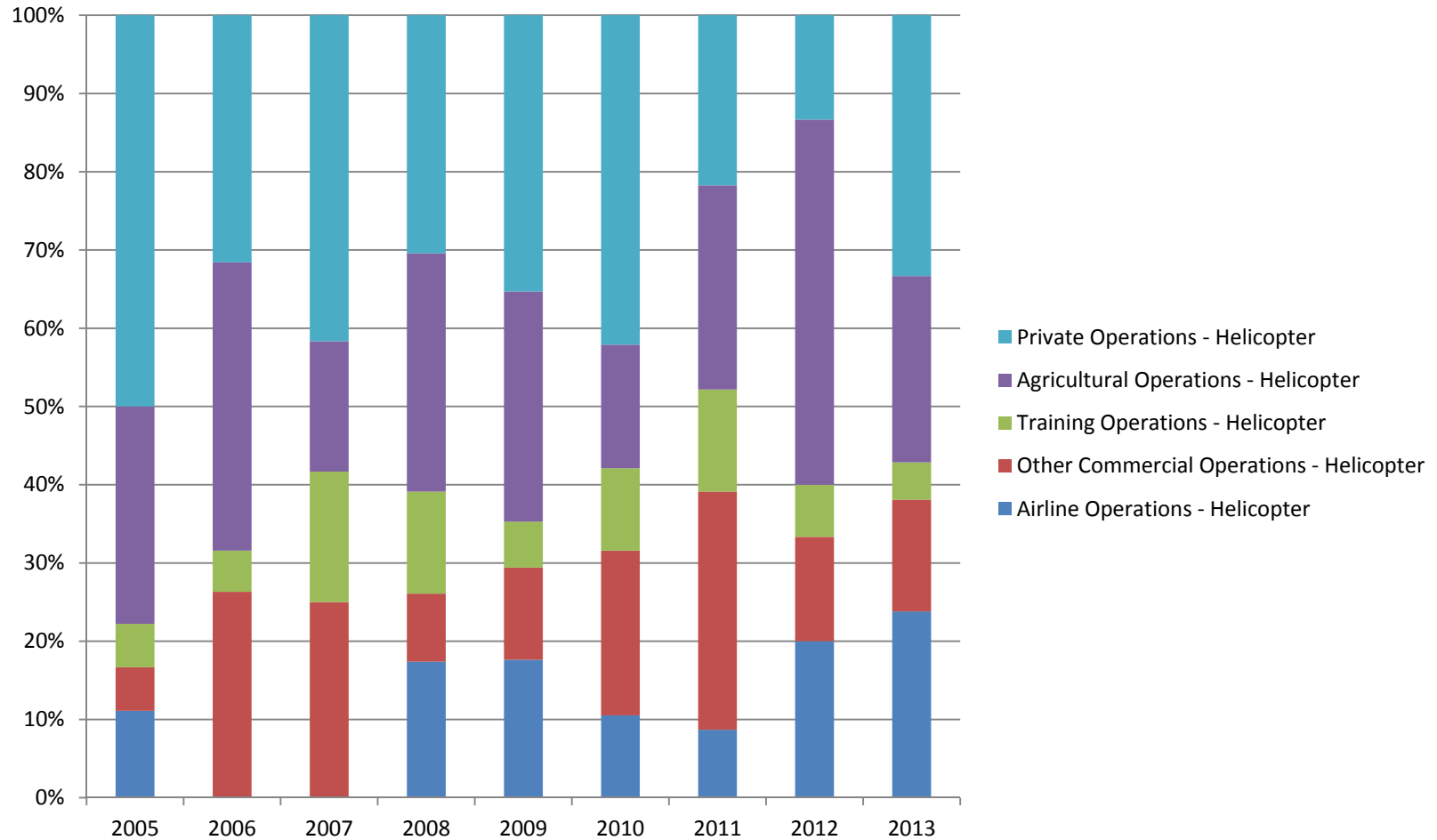
Estimated total hours over time



### Accidents/100,000 hours for all NZ helicopters

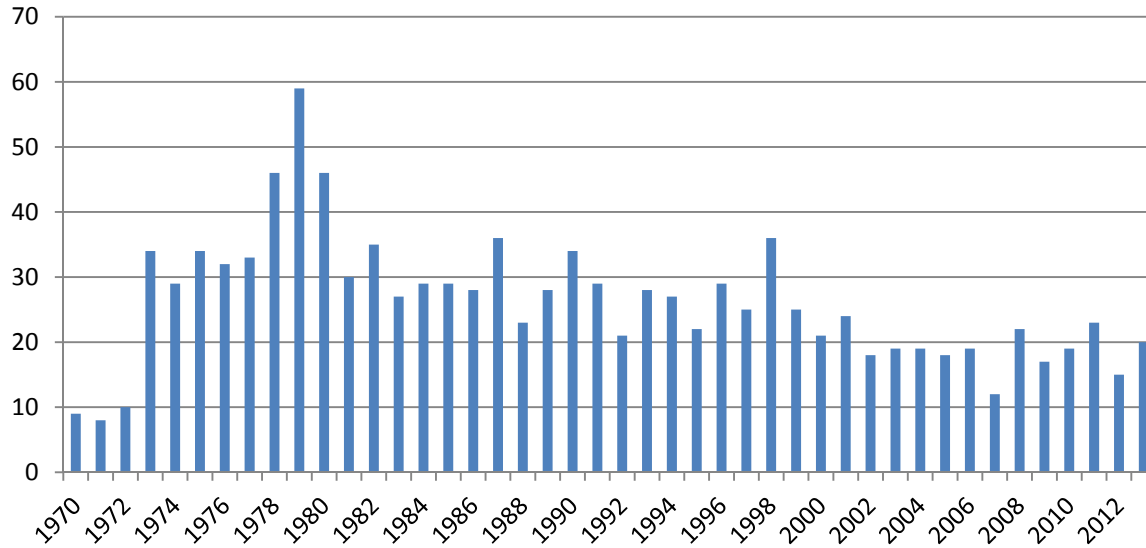


## % Share of Accidents per Year by Operation Type

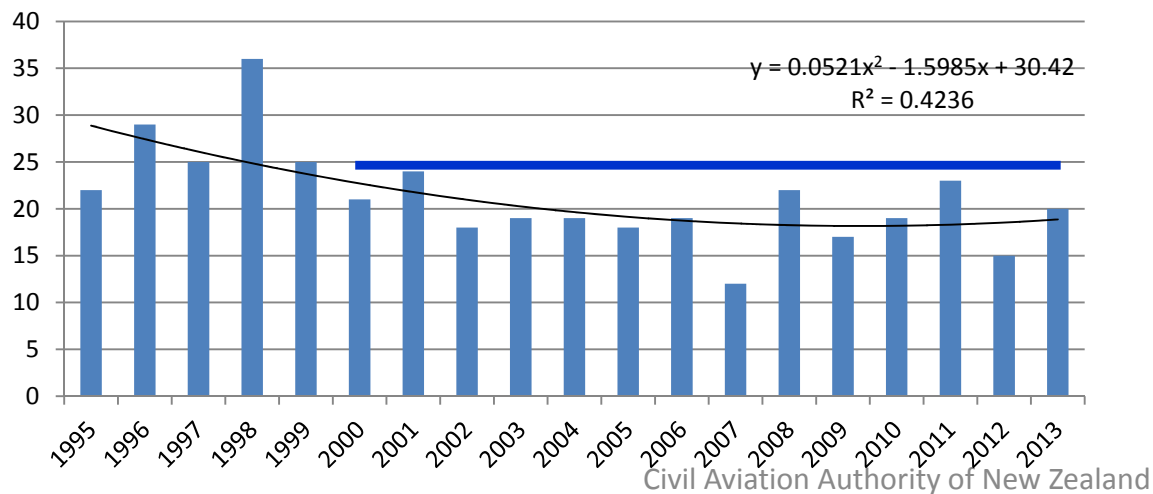


# The long view: the trend over time:

Total annual helicopter accidents



While we *have* improved over time..



Since 2000 we have hit a plateau.

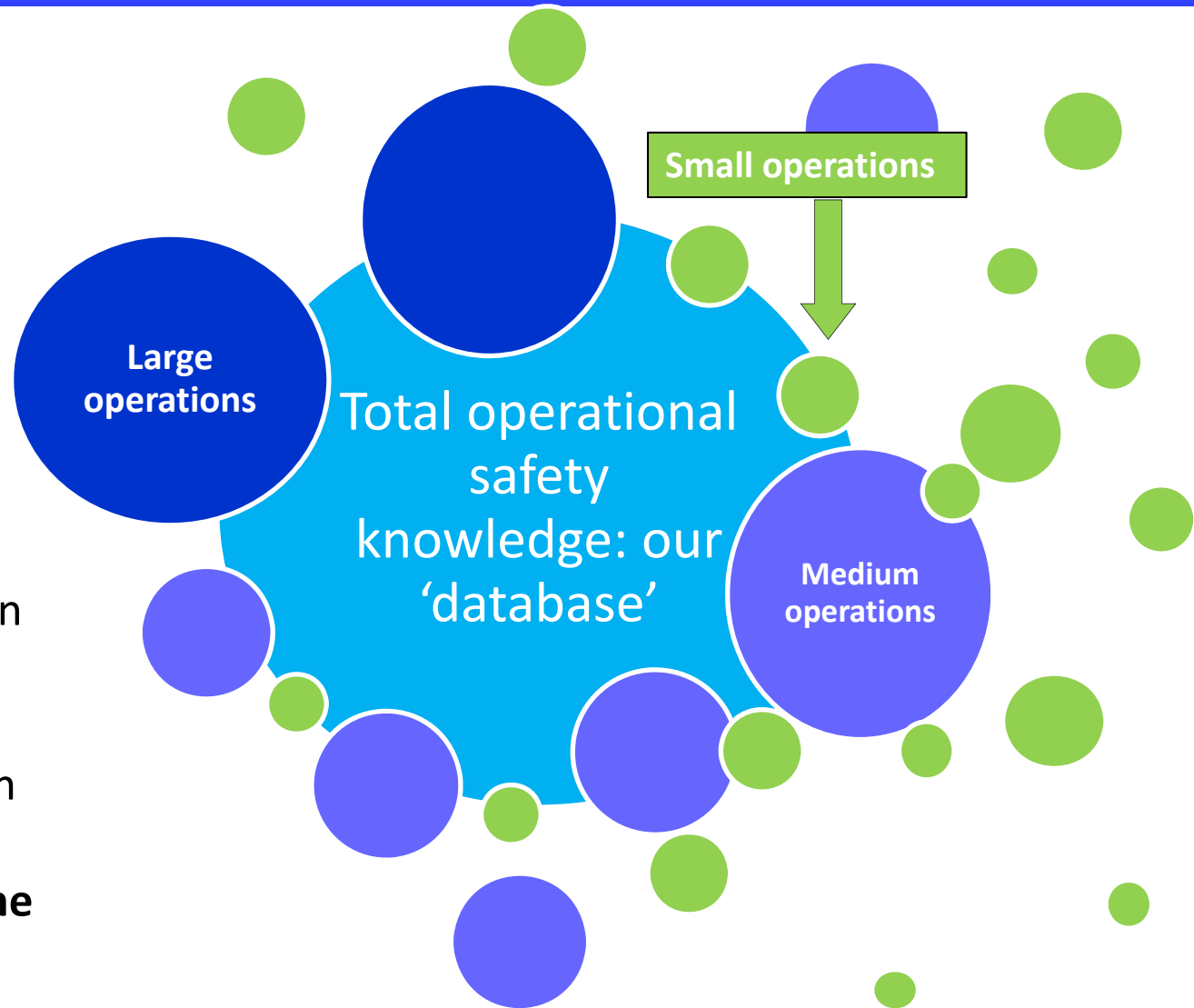




# Information and analysis to improve operations: the challenge we are facing

✈ Generally the best operations are also the most 'plugged in' to information about safety risks and the industry itself.

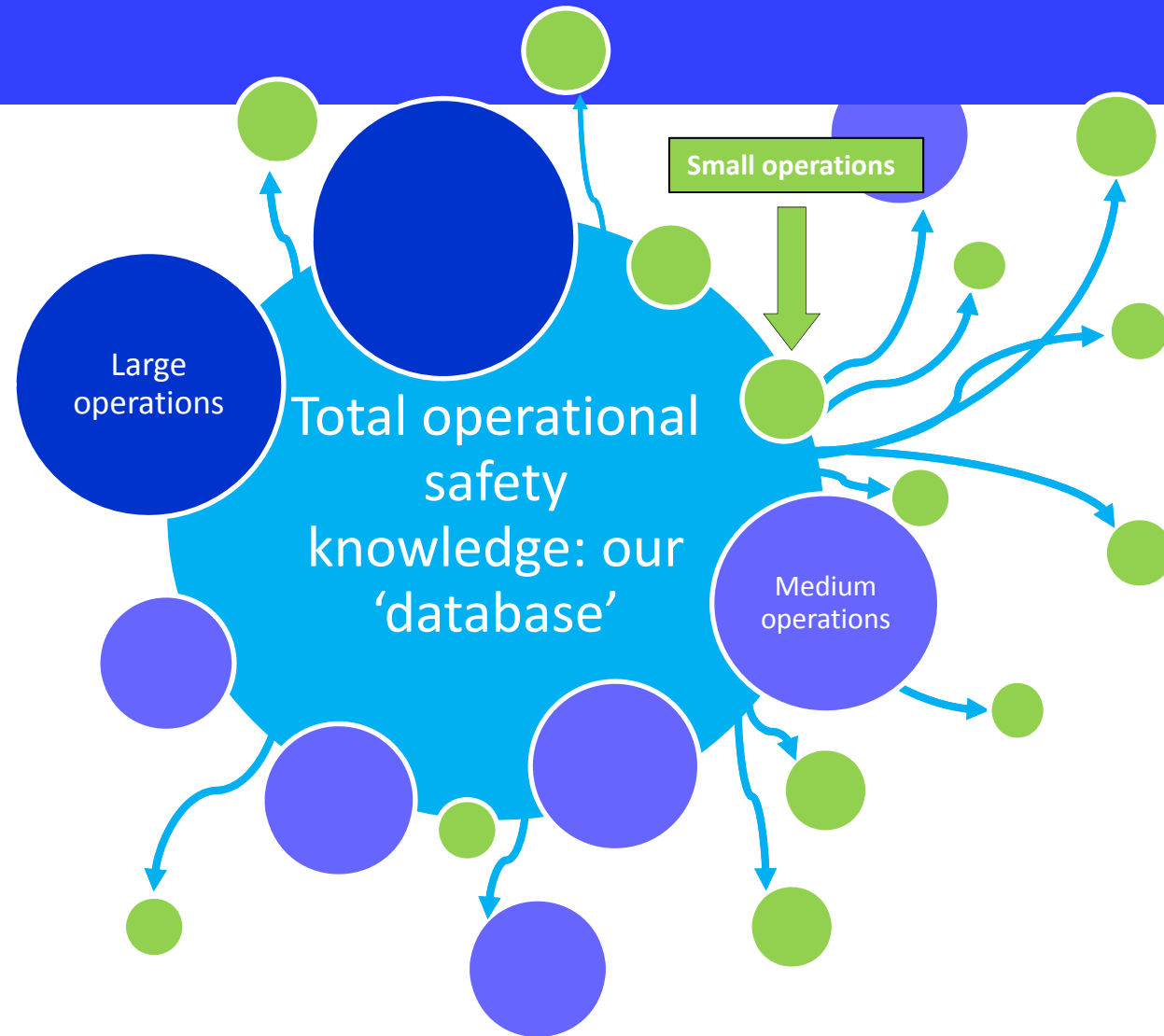
✈ Without information about hazards, threats and strategies, there can be no real improvements **to the full system.**



# We need to distribute the information we have throughout the whole system – we need to draw in all operators.

✈️ This proposal is that the NZHA collaborates with CAA information unit to develop a regular series of occurrence and safety updates ('Bulletins') that we distribute.

✈️ The goal is to develop greater sense of 'one industry' and to share information and strategies to **reduce the accident rate.**



# Inventory: the information our analysis yielded

A lot: with 1154 total accidents, we have had *every type of accident that we can have*. Below are the top ten primary causes of all accidents since 2000:

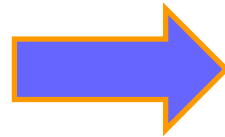


Mechanical  
Unrealistic expectation of power available  
Mishandled  
CFIT  
Wire Strike  
Runaway helicopter  
Operating in inappropriate conditions  
Loss of control  
Inadequate training of ground crew  
Overloaded for conditions

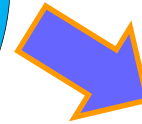
# The process:

**Occurrence Report**

**Safety information submitted to CAA**



Operational safety knowledge: our database

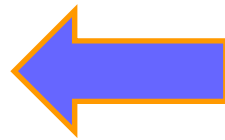


Information is completely de-identified



Causes assigned by NZHA committee; resilience techniques and strategies proposed.

Concise reports ('bulletins') distributed to all operators



**New Zealand Helicopter Association Safety Bulletin**

**CFIT and object collisions in transport operations**

**NZHA Safety Bulletins** SBI 1

This bulletin is the product of a collaborative effort between the NZHA and CAA to establish and analyse an extensive dataset of all New Zealand helicopter accidents between 2000 and 2012. Its purpose is to distribute the results so that we in aviation learn as much as possible from the accidents of the past, and adapt our operations and procedures accordingly.

**CFIT and object collisions**

CFIT is defined by the FAA as "when an aircraft is flown, under the control of a qualified pilot, into terrain (or water or obstacles) with inadequate awareness on the part of the pilot of the impending collision". Within this definition, 'terrain' is extended beyond 'land surface' to include water and objects (wires, trees, fences, etc). The reason for this is that the factors underlying terrain collisions are generally the same as those underlying *air* collisions; we will get a better understanding of the causes of the issue by looking at a wider pool of accidents.

**International research and findings**

In their 2003 Advisory Circular on CFIT accidents in General Aviation the FAA stated that 17% of all GA accidents were CFIT, and that half of these occurred in IMC. In a 2005 study the ATSB found that 60% of Australia's CFIT accidents were fatal<sup>1</sup>. The IHSI has identified that while CFIT accidents are the 13<sup>th</sup> most common accident type for helicopters, these accidents have a high fatality rate: Like the ATSB report, the IHSI has stated that 60% of helicopter CFIT accidents have been fatal<sup>2</sup>. Their analysis of CFIT accidents yielded these common causal factors:

- Disregarding cues that should have led to termination of flight or manoeuvre
- Inadequate consideration of weather/wind during flight planning
- Unsafe flight profile - Altitude

**Helicopter CFIT accidents in NZ**

There have been a total of 48 helicopter accidents involving CFIT or object collision between 2000 and 2012 with 16 fatalities and 5 serious injuries:

Year	Number of Accidents
2012	5
2011	4
2010	3
2009	2
2008	1
2007	2
2006	1
2005	1
2004	1
2003	1
2002	1
2001	1
2000	1

## De-identifying information and reports:

### Means the removal of:

- a) All individuals' names and;
- b) All business and company names and;
- c) All aircraft identification information and;
- d) All location information where this would likely reveal an identity.

**Guiding principle:** *Any piece of information that can possibly identify any aviation system participant will be removed.*

## Structure of safety bulletins we can produce:

- a) Synopsis of the type of safety issue (e.g. CFIT accidents)
- b) Summary of major international research, if it is available**
- c) Statistical analysis of the issue – major trends and risk factors (e.g. CFIT the main type of accident for commercial transport ops.)
- d) Brief descriptions of 'classic examples' of the type of accident or incident
- e) Steps that all operators can/should take *to reduce or eliminate the chance that the type of accident or incident will threaten their operation.***