



# The power of intelligence and data analytics

**GETTING YOU HOME HEALTHY AND SAFE.  
THAT'S WHAT WE'RE WORKING FOR.**

**WORKSAFE**  
NEW ZEALAND | MAHI HAUMARU  
AOTEAROA



**The Government's target is to reduce work-related fatalities and serious injury by at least 25 percent by 2020.**

**We all have a part to play in that.**



# CHANGE IT'S INEVITABLE



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## DATA THE PAST AND THE FUTURE



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AOTEAROA





**Without data you're just another person with an opinion. (W. Edwards Deming)**

# WHY NOW?

Why our organisation?



Recognition of Data's Value



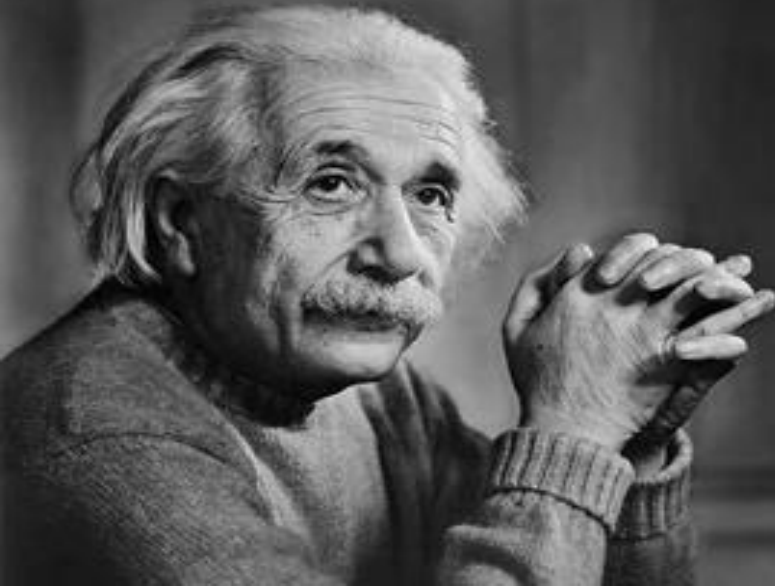
Increased Pressure on Accurate Decisions



Increase in Mobile Workforce

If you can't explain it **simply**, you  
don't understand it well enough.

– Albert Einstein



Albert Einstein Archives / Princeton University Press

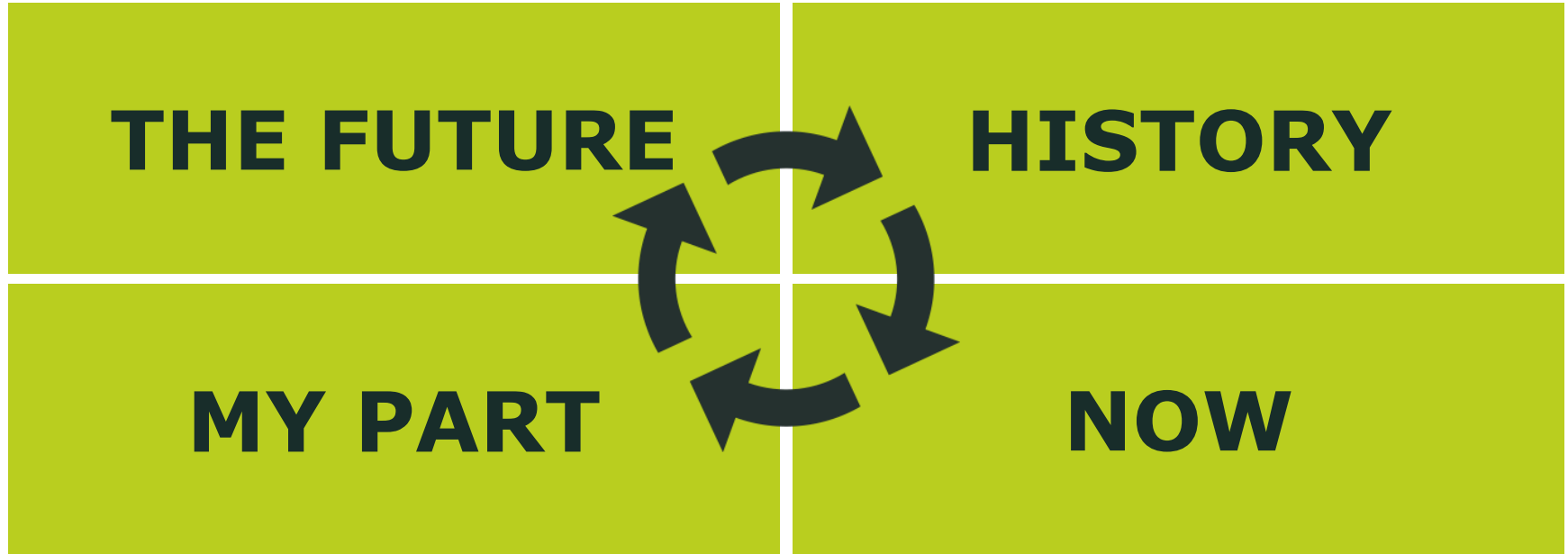
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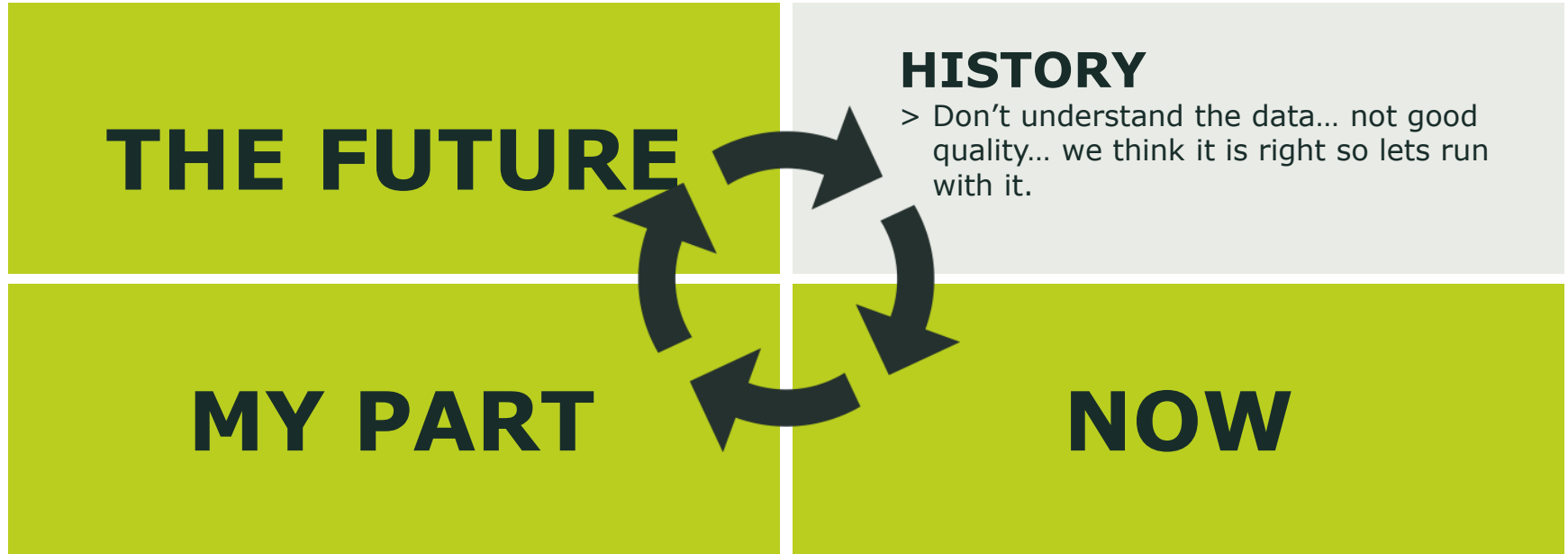


# WORKSAFE'S JOURNEY AND EXPECTATIONS:

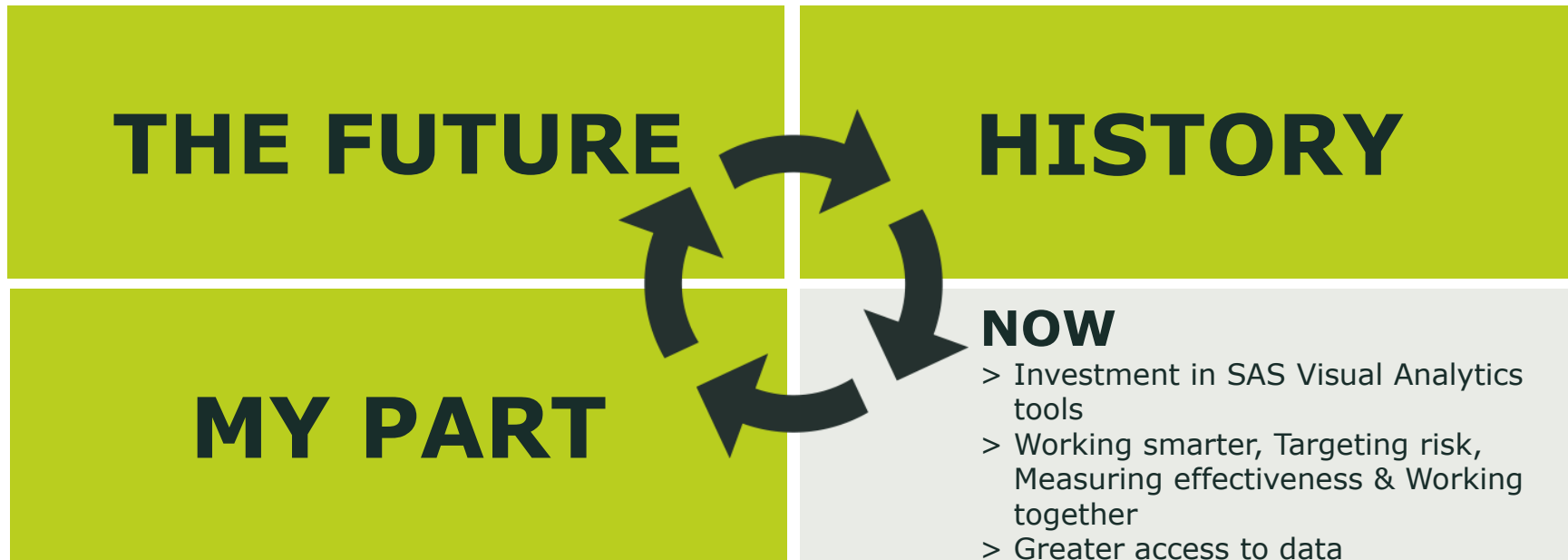




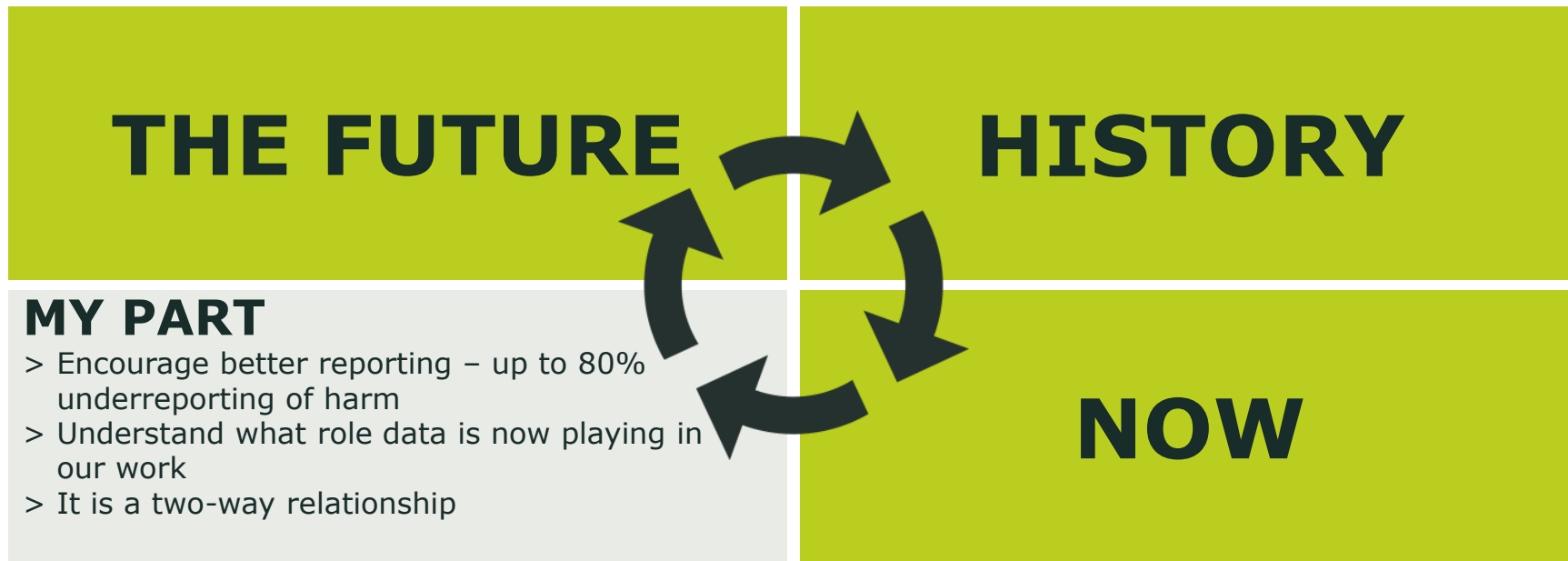
# WORKSAFE'S JOURNEY AND EXPECTATIONS:



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# WORKSAFE'S JOURNEY AND EXPECTATIONS:

## THE FUTURE

- > Take a smarter risk based intervention approach (Causation)
- > Evidence based decision making, with decisions based on good data & research and evaluation (HRAP)

## HISTORY

## MY PART

## NOW



# WORKSAFE'S JOURNEY AND EXPECTATIONS:

## THE FUTURE

- > Take a smarter risk based intervention approach (Causation)
- > Evidence based decision making, with decisions based on good data & research and evaluation (HRAP)

## HISTORY

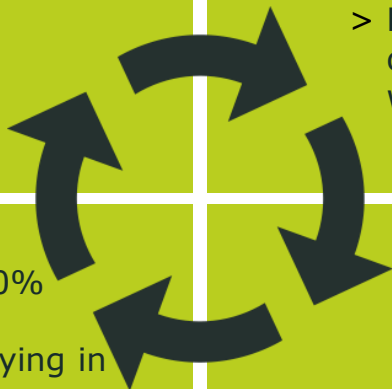
- > Don't understand the data... not good quality... we think it is right so lets run with it.

## MY PART

- > Encourage better reporting – up to 80% underreporting of harm
- > Understand what role data is now playing in our work
- > It is a two-way relationship

## NOW

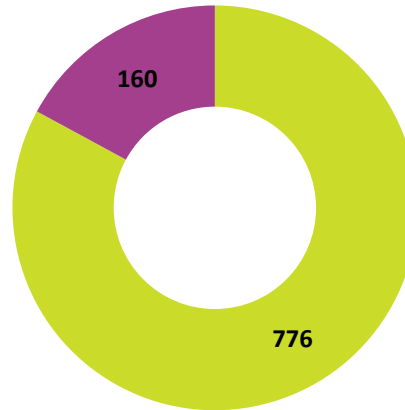
- > Investment in SAS Visual Analytics tools
- > Working smarter, Targeting risk, Measuring effectiveness & Working together
- > Greater access to data





## Work Related Health

**Estimated annual deaths attributable to occupational exposures by gender (2010)**



■ Men ■ Women

In 2010, there were an estimated 939 deaths attributable to occupational exposure. Apart from malignant neoplasm, mental disorders and diseases relating to nervous system, also observed were circulatory system, respiratory, digestive and genitourinary systems.

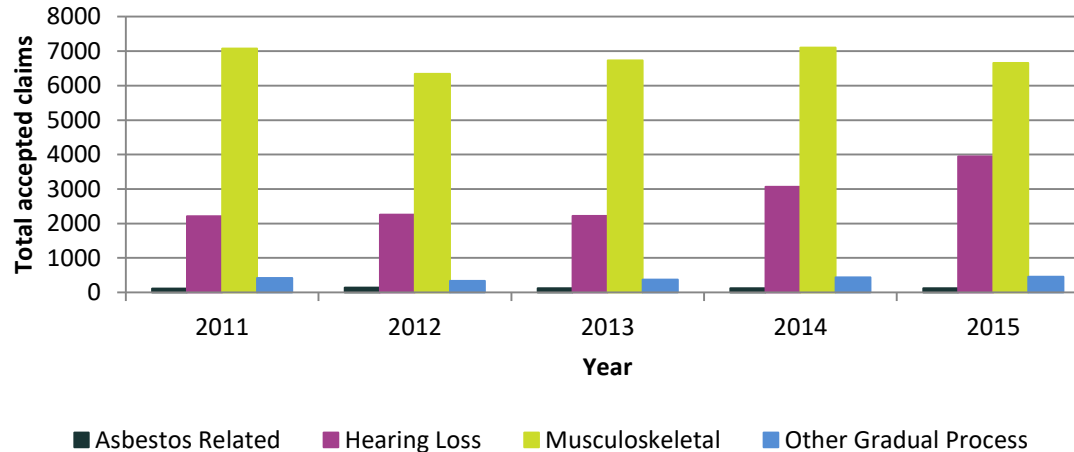
Source: Estimated annual burden of work-related disease mortality in New Zealand, 1999 and 2010 (MBIE, 2013)





## Work Related Health

Number of new accepted gradual process claims by group

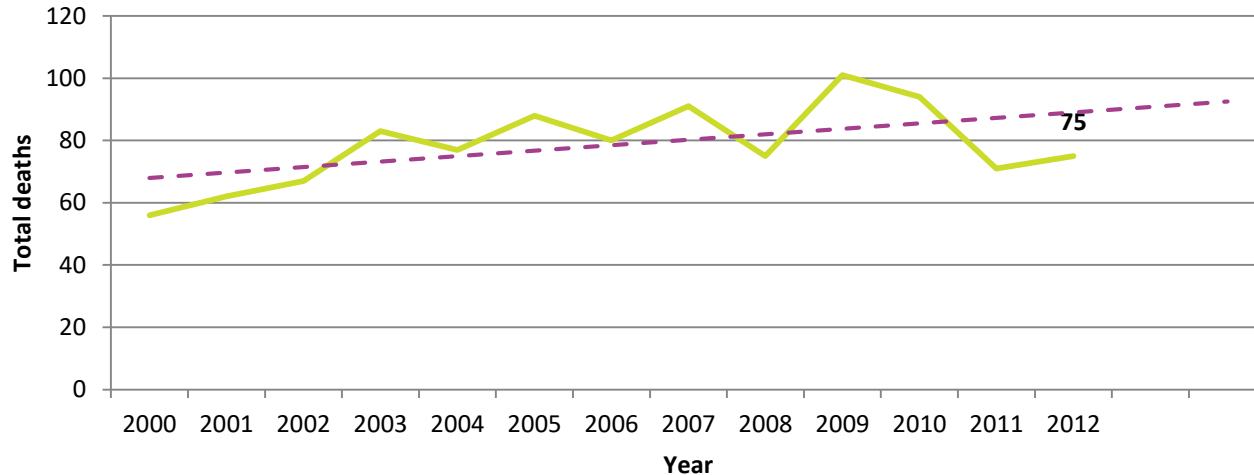


For the past 5 years, musculoskeletal disorders and hearing loss contributed to more than 90% of gradual process claims accepted by ACC.



## Work Related Health

### Total mesothelioma deaths

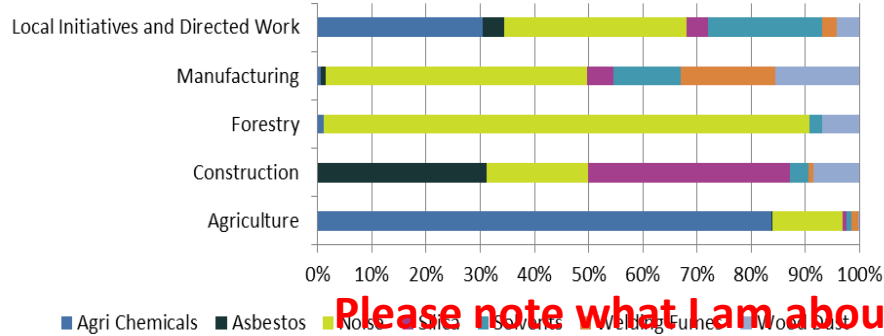


Source: Ministry of Health mortality statistics ICD-10 code C45

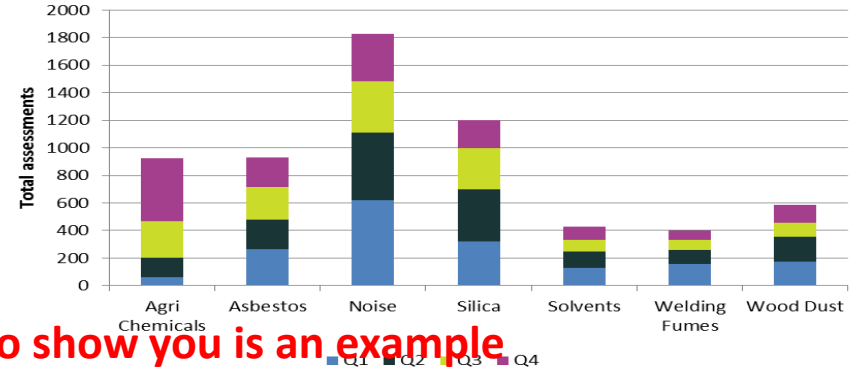
Around 78 people die of mesothelioma each year. Based on predictive analysis within the UK and Australia, there is an expectation that there will be a reduction. It is assessed that New Zealand will see a decline in numbers.

# WORKSAFE'S WORK RELATED HEALTH ACTIVITY

2015/2016: Type of secondary assessment focus area by industry

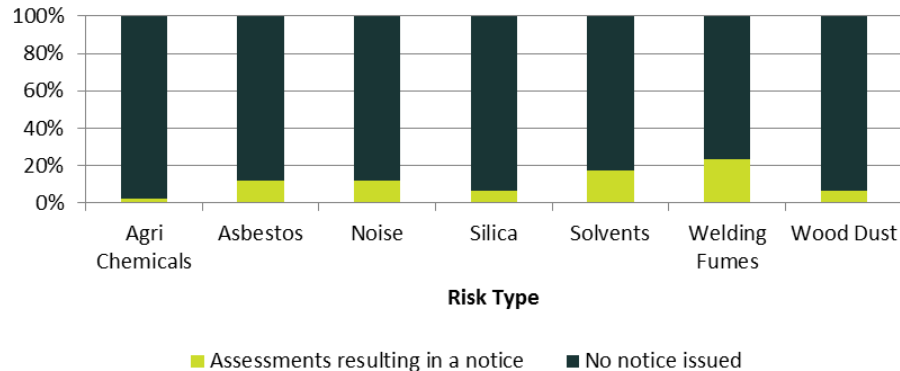


2015/2016: Total secondary focus area assessments by risk type



Please note what I am about to show you is an example of the data we collect, and is not for reporting purposes.

2015/2016: Percentage of secondary focus area assessments resulting in a notice







ACC and WS

**Search Company (no space)**

FileTitle CompanyCode

**Industry**

- ☐ (missing values)
- ☐ Accommodation and Food Services
- ☐ Administrative and Support Services
- ☐ Agriculture
- ☐ Arts and Recreation Services
- ☐ Construction
- ☐ Education and Training
- ☐ Electricity, Gas, Water and Waste Services
- ☐ Financial and Insurance Services
- ☐ Fishing

### ACC Claim and Work Safe Region

- ☐ (missing values) - always tick
- ☐ Auckland
- ☐ Bay of Plenty
- ☐ Canterbury
- ☐ Gisborne
- ☐ Hawkes Bay
- ☐ Manawatu-Wanganui
- ☐ Marlborough
- ☐ Nelson
- ☐ Northland

ACC Injury Type: Major Injury Classification -> Minor -> External Agency -> Read code (2008 - up to Feb 2016)

**Group 0 Falls, trips and slips of a person**

**Group 1 Hitting  
objects with a part  
of the body**

**Group 2 Being hit by moving objects**

#### Group 4 Body stressing

Sub Industry

- ☐ (missing values)
- ☐ Accommodation
- ☐ Adult, Community and Other Education
- ☐ Advertising Services
- ☐ Agricultural Product Wholesaling

Specific Region (No data for ACC)

☐ (missing values)

☐ Alexandra

☐ Arrowtown

☐ Ashburton

☐ Auckland - Central Zone

**Local Risk Intervention: Site Selection by Industries (normalised in %)**

1. Priority Interest

2. High Interest

3. Med Interest

4. Low Risk Profile Fit

0% 20% 40% 60% 80% 100%

Company



# Targets Dashboard

Board Targets Dashboard V3

File Help

SAS

Sign Out

Contents 1. The Dashboard 2. Priority Industries

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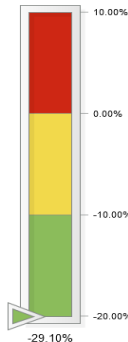
## TARGETS DASHBOARD 12 months ending November 2015

**INSTRUCTIONS:** Use the drop down boxes to filter the charts below. SWIFT industry will filter SWIFT sector and WSNZ\_Region will filter WSNZ\_Office  
**NOTE:** Indicator 2 is excluded because we do not have access to linked hospital/ACC data for privacy reasons.  
**CAUTION:** MBIE employment estimates for 2015 months are not yet available - instead 2014 is used as a proxy. This is under review.

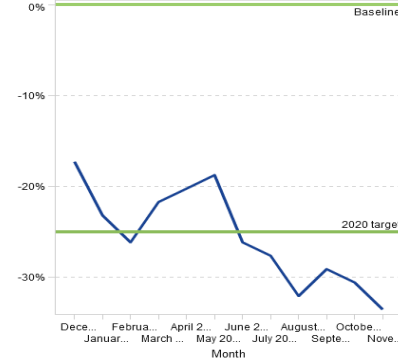
SWIFT\_Industry:  WSNZ\_Region:   
SWIFT\_Sector:  WSNZ\_Office:

Indicator 1: Work-related fatalities

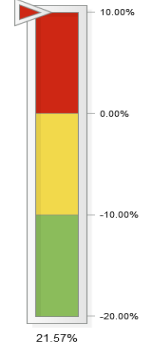
Percentage change from baseline (fatal)



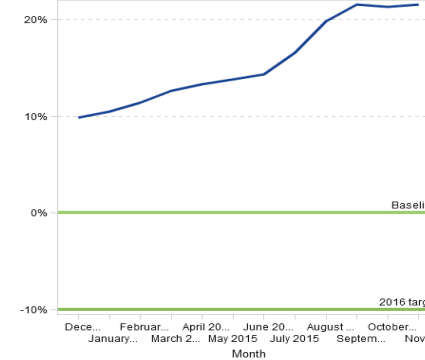
Percentage change from baseline (12 month moving average)



Percentage change from baseline (severe injury)



Percentage change from baseline (12 month moving average)



Please note what I am about to show you is an example of the data we collect, and is not for reporting purposes.

### Severe injury in the last 12 months

#### Priority industries

SWIFT_Industry	Percentage change from baseline	Annualised rate	Annual Injury count
Forestry	-35.46%	18.42	169
Manufacturing	11.63%	21.46	5,112
Agriculture	21.76%	22.68	2,588
Construction	22.19%	23.30	4,480

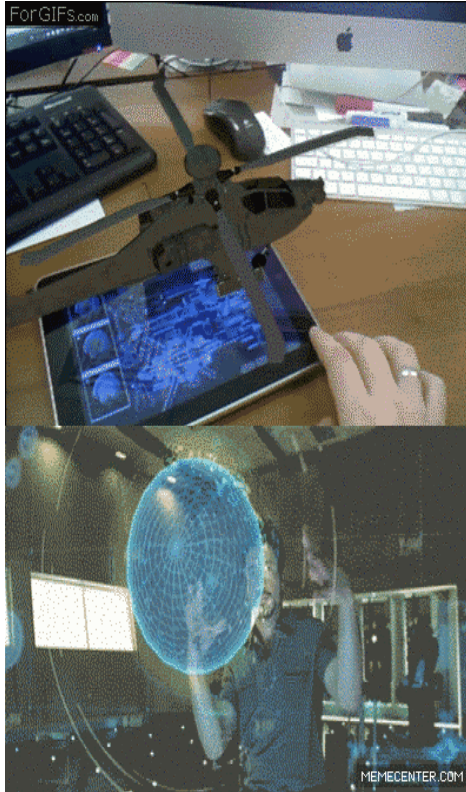
#### Industries with least reduction since 2009-11

SWIFT_Industry	Percentage change from baseline	Annualised rate	Annual Injury count
Wholesale and Retail Trade	31.68%	8.18	4,027
Education and Health	36.89%	7.35	2,951
Other Services	43.16%	7.35	596

#### The regions

WSNZ_Region	Percentage change from baseline	Annualised rate	Annual Injury count
Central	17.49%	13.50	8,399
Northern	28.38%	9.07	7,796
Southern	21.01%	12.29	10,339

## The Future



## WHAT DOES THE FUTURE BRING

Strategic Intelligence

Future Investment

Targets are Met... Where to Then?



HASANZ Conference - Sept 2016..htm



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# GETTING THE MESSAGE CORRECT





**GETTING YOU HOME HEALTHY AND SAFE.  
THAT'S WHAT WE'RE WORKING FOR.**

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**worksafe.govt.nz**



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