AIRPORTS AND BEYOND

MAP THE FUTURE OF YOUR DATA

LOCUS | FME

Manage your data with Locus and FME®

HELLO

LOCUS
Manage your data with Locus and FME®

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AGENDA

1. Introduction to Locus & Safe Software
2. Introduction to the FME® Platform
3. Indoor Mapping for: Wayfinding, Asset Tracking, Application Integration, Data Transformation and Automation
4. Case Studies
5. Q&A

LOCUS

www.locus.co.nz

- 10 years on the FME journey
- Safe Software Platinum Partner and Value Added Reseller
- 200+ organisations trusting us in New Zealand, Australia and worldwide
- **7 experts with FME Technical Certifications**
  FME Certified Professional, FME Certified Server, FME Certified Trainer

Safe Software

www.safe.com

SAFE SOFTWARE

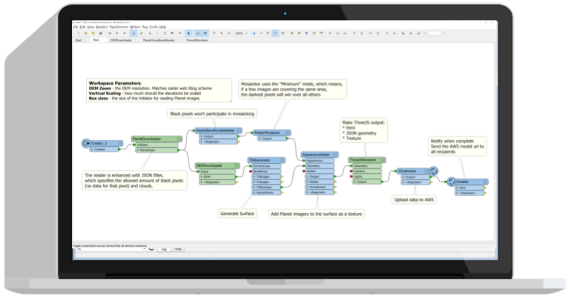
- 25 years old, head office in Vancouver
- 150 partners working alongside customers globally to help solve data integration challenges
- Continuous program of software innovation and delivery

Introduction to the FME® Integration Platform


FME
TM

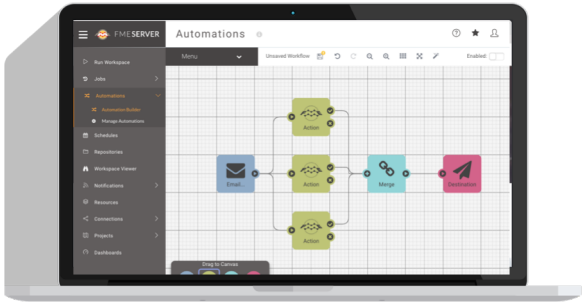
FME® Integration Platform

Connect. Transform. Automate.



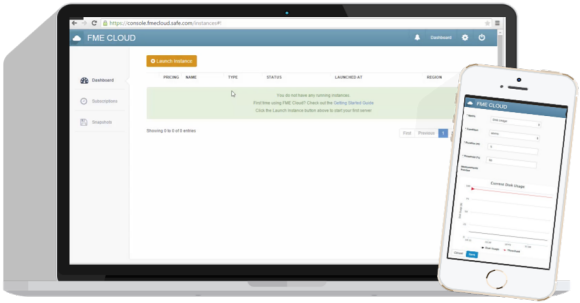
FME Desktop

Build & Run Workflows



FME Server

Automate Workflows (on-premises)



FME Cloud

Automate Workflows (cloud)

FME is the data integration solution with the best support for spatial data worldwide

Some industry customers that use FME

nbn™

Stats NZ
Tatauranga Aotearoa

AT

Auckland Council
Te Kaunihera o Tāmaki Makaurau

Auckland Airport

Sydney WATER

NSW GOVERNMENT Transport for NSW

Department of Conservation
Te Papa Atawhai

Queensland Government
Department of Main Roads

New Zealand POLICE
Ngā Pirihimana o Aotearoa

Christchurch City Council

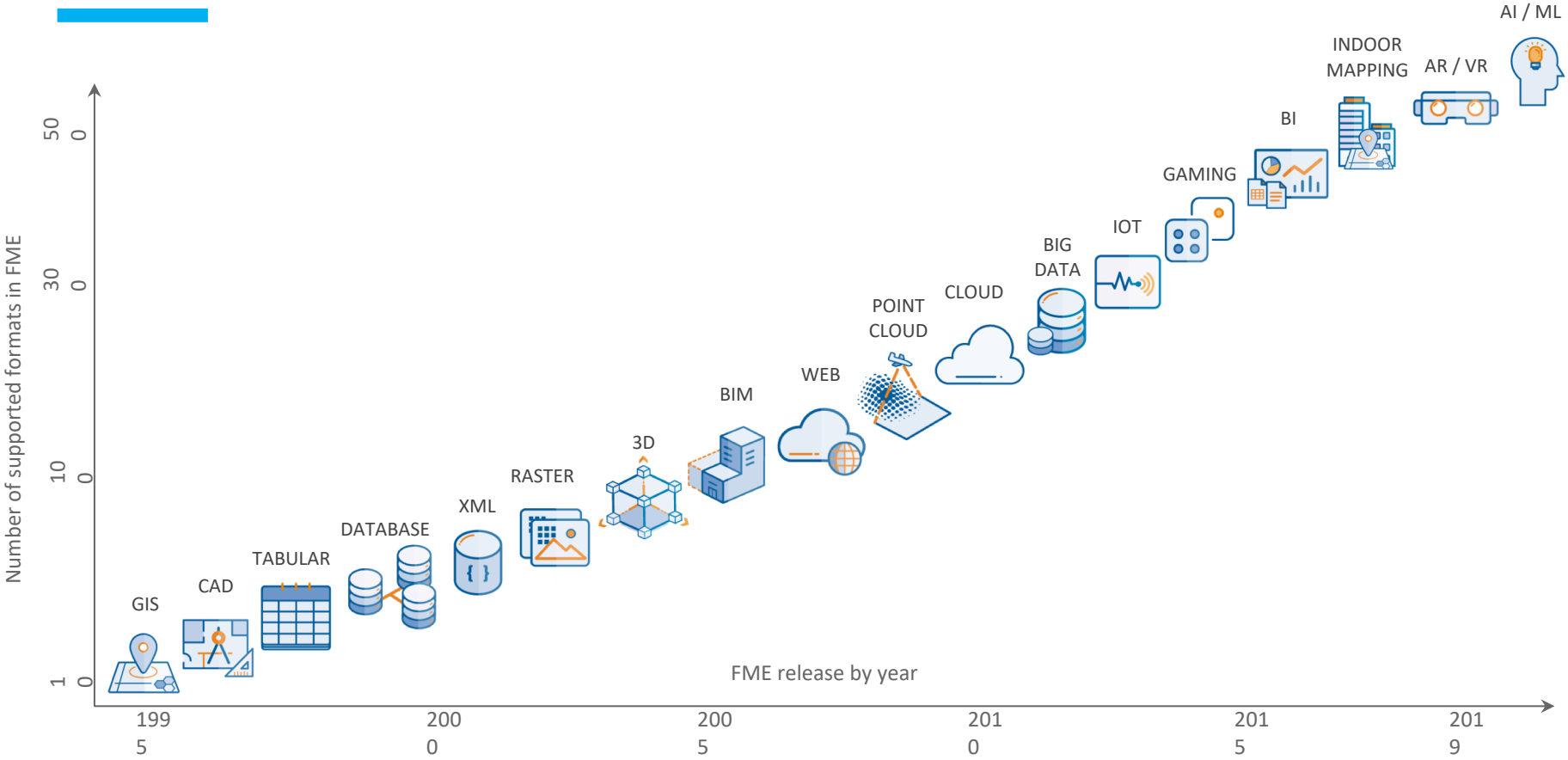
Land Information New Zealand
Toitū te whenua

KPMG

Wellington Water

New Zealand Post

CONNECT


Number of supported formats in FME
1
10
30
50
0
0
0
0
FME release by year
1995
2000
2005
2010
2015
2019
GIS
CAD
TABULAR
DATABASE
XML
RASTER
3D
BIM
WEB
POINT CLOUD
CLOUD
BIG DATA
IOT
GAMING
BI
INDOOR MAPPING
AR / VR
AI / ML

CONNECT YOUR DATA SOURCES

FME supports geospatial data, structured and unstructured data, linked data, and time series.

Share

Connect data between 400+ sources

Extend

Extend FME's capabilities with custom connections

Enable

Power business decisions by removing data silos

TRANSFORM YOUR DATA

Use any combination of transformers to address all levels of complexity.

Modify

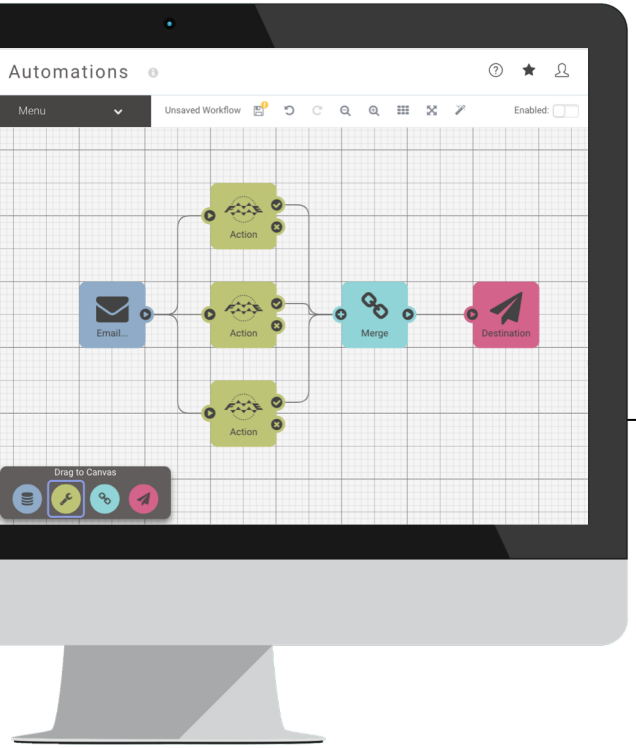
Restructure, filter, calculate & more

Validate

Validate to ensure high quality data

Adjust

Adjust workflows to meet changing requirements



AUTOMATE YOUR WORKFLOWS

Automatically provide integrated data to stakeholders on a real-time or scheduled basis.

Trigger

Automate data integration using event-based workflows

Assemble

Easily build automations using a visual interface

Eliminate

Eliminate the manual effort of complex and repetitive tasks

INDOOR MAPPING

What is it and why do we need it?

Kieran
O'Donnell

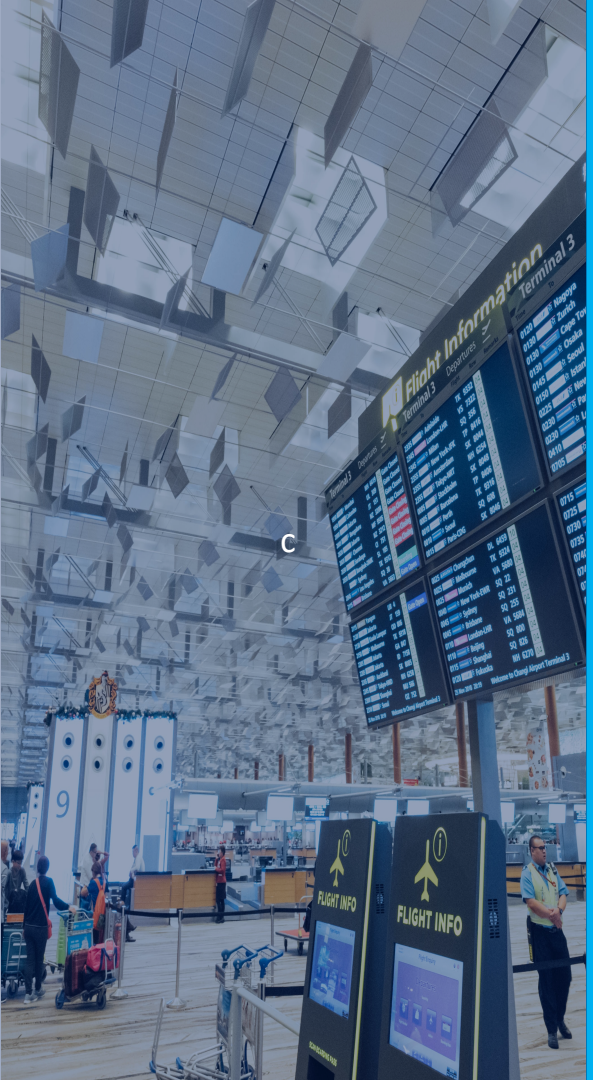
FME Desktop Certified Professional & Trainer

INDOOR MAPPING

What is it and why do we need it?

On average we spend 90% of our time indoors but almost none of it is mapped

- Enable wayfinding to improve the customer experience
- Efficiently manage your assets, facilities and infrastructure



INDOOR MAPPING FOR WAYFINDING

Make floor plans and real-time updates accessible to your customers

- Enhance the customer experience by allowing for seamless navigation in a large facility
- Notify customers of changes to layouts and obstructions during periods of disruption
- Provide updates for queue times to help people stay on time, and reduce stress in large venues or facilities

INDOOR MAPPING FOR WAYFINDING

Make your facility accessible to those with visual impairments

- Allow for navigation using audio prompts
- Use real-time updates to notify users of obstructions and safety hazards
- Create a user experience which promotes independence and confidence

INDOOR MAPPING FOR ASSET TRACKING

Improve operational efficiency by geo-locating and tracking your assets

- Enhanced tracking of assets and infrastructure which are shared within your facility
- Improve efficiency by using assets which are nearest to the place they’re needed
- Monitor maintenance and replacement of key assets

APPLICATION INTEGRATION

Challenging task to integrate the various data sources together to create an indoor mapping solution

- Synchronise all facilities and infrastructure data together
- Convert CAD drawings into a spatially enable mapping product which represents the real location
- Integrate with traditional GIS databases
- Keep data up to date to ensure validity in the outputs

APPLICATION INTEGRATION

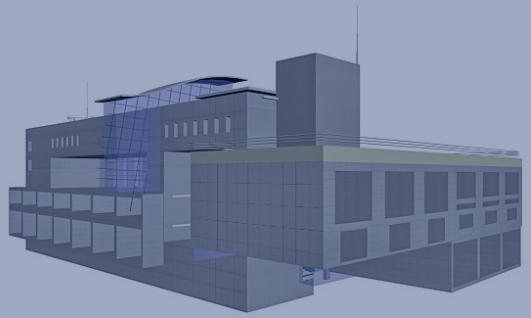
FME can act as the ETL glue to tie all your systems together

- Connect between over 450 different formats
- Create ‘one source of the truth’ to provide a complete picture of your facility and promote confidence in your data
- Connect data between CAD/Engineering drawings, GIS Databases, and Facilities Management systems

DATA TRANSFORMATION

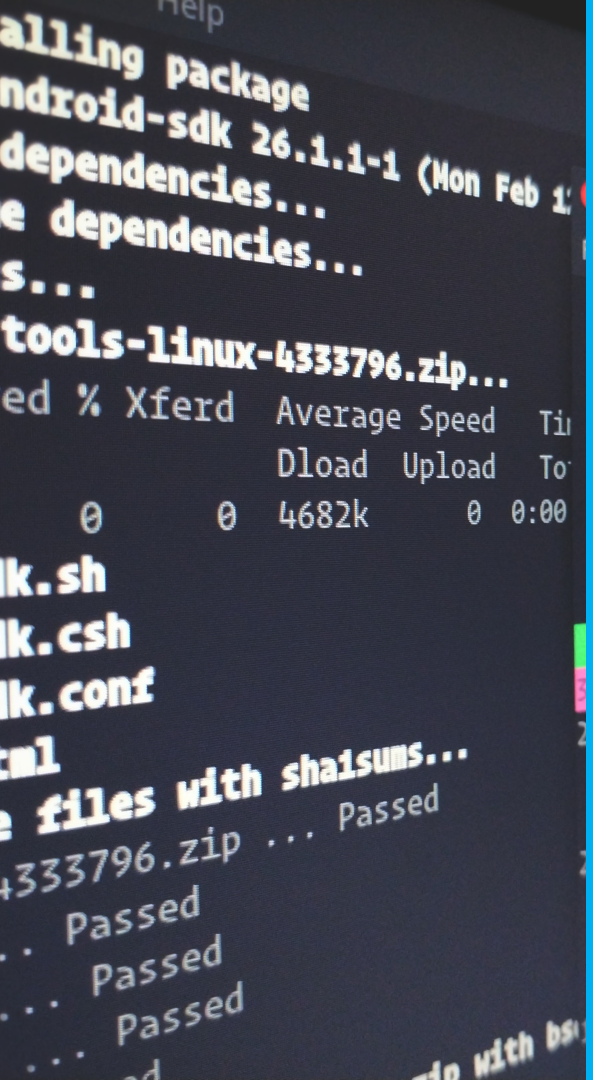
Transform data into the required structure and format and ensure it meets standards

- Convert a variety of data sources into a consistent schema
- Fix geometry of data to ensure it is complete, and navigable in an indoor mapping application
- Transform to meet the framework for multiple different output standards



DATA TRANSFORMATION

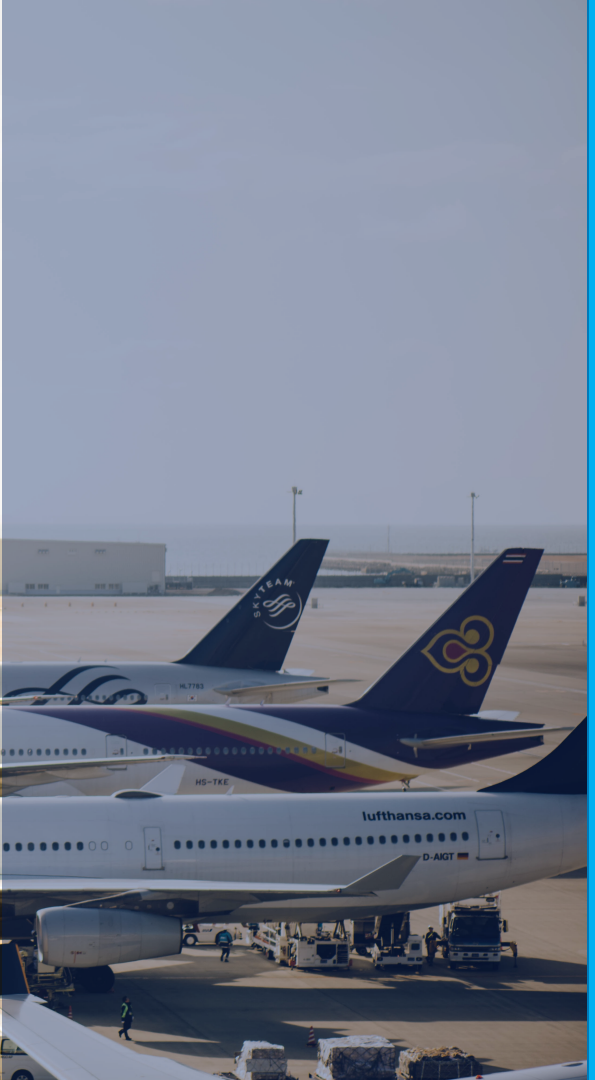
FME can transform all of your data into a common format, to create one complete indoor mapping output



AUTOMATION

Create a workflow once, and run it repeatedly to always keep your indoor map up to date

- Run workflows on demand and automatically provide data to mobile applications
- Update wayfinding in real-time depending on wait times and field observations
- Workflows can run on triggers as obstructions or changes in your data are made



CASE STUDIES

A dive into the indoor mapping journey at two award winning airports

- Schiphol Airport (Amsterdam-AMS)
- Vancouver International Airport (YVR)

CASE STUDY: SCHIPHOL AIRPORT

- Ninth busiest airport in the world, with over 500,000 airport movements annually
- Over 300,000 jobs linked to Schiphol Airport
- Over 50,000 Assets registered in their GIS Database and Asset Management systems
- Twelve different contractors on-site each day, building and renewing Schiphol's assets

CASE STUDY: SCHIPHOL AIRPORT

Set the goal to become the most preferred airport in Europe

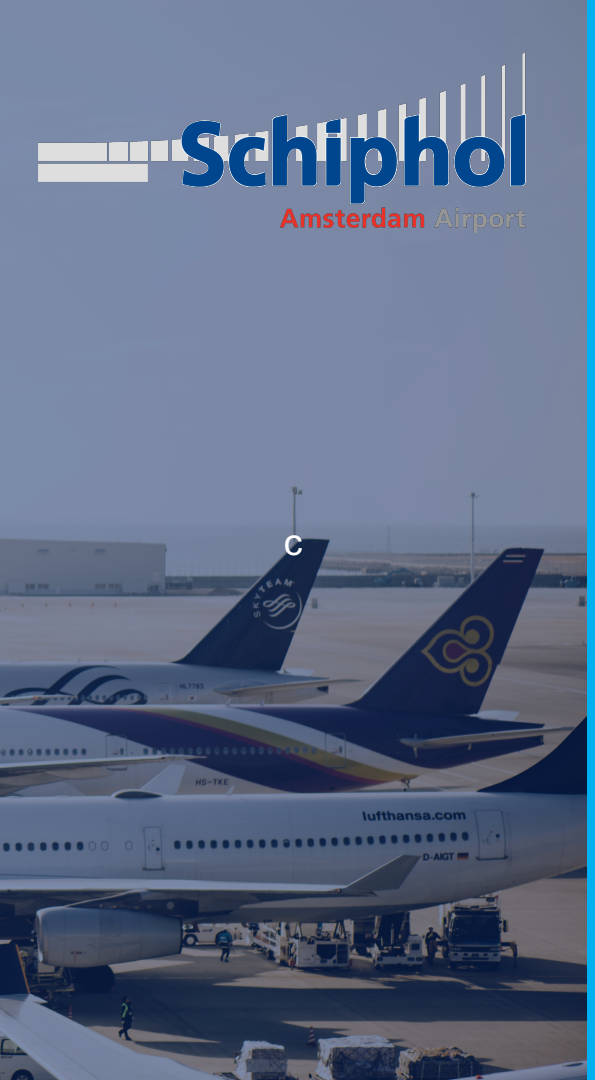
Key Components:

- Improving the passenger experience to create a new level of customer satisfaction
- Enable indoor wayfinding to reduce stress and have a seamless experience moving through the airport
- Share data with mobile application providers and via publicly available APIs

SCHIPHOL WAYFINDING

Wayfinding inside airport terminals to reduce stress and create a seamless passenger experience

- Almost every visitor to the airport felt some level of stress due to the unknown factors of moving through an airport
- Allows people to take the guesswork out of their travel plans, and have a better understanding of what to expect
- Wanted to make complete, tailor made travel plans by surfacing all available information in a custom made application



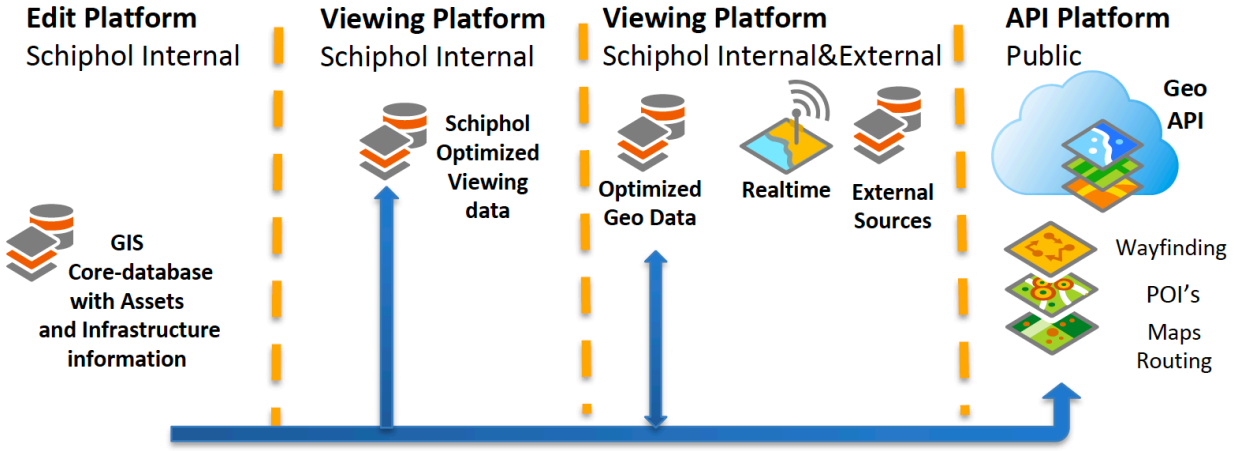
SCHIPHOL WAYFINDING

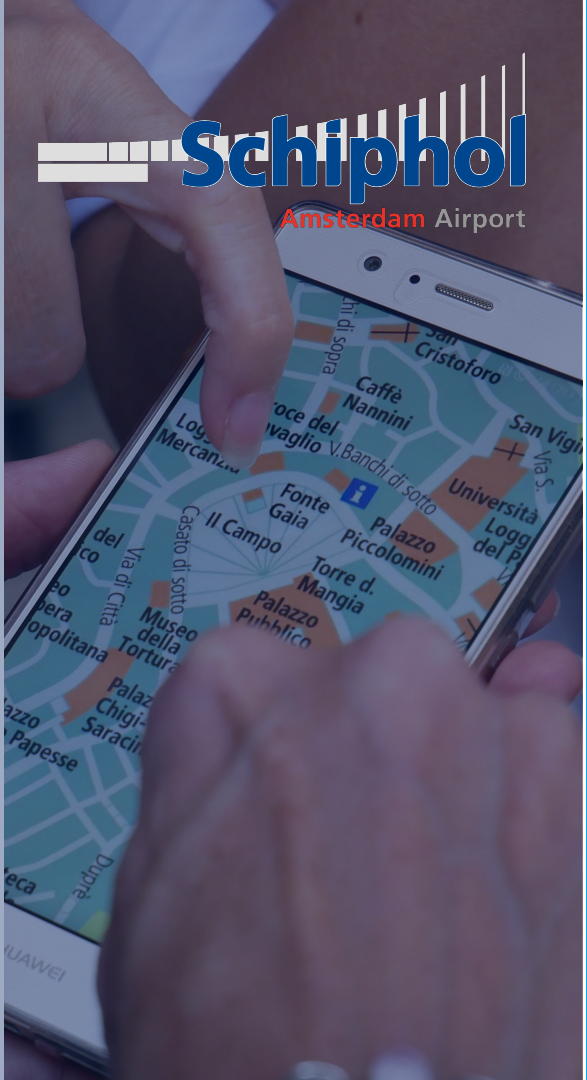
Combining the best available data using FME, to transform and automate for indoor mapping formats

- Majority of floor plan data held in CAD drawings
- Asset and infrastructure data held in core GIS databases, with over 50,000 features
- Other systems containing facilities management information, indoor wayfinding data, and POIs within the airport

SCHIPHOL WAYFINDING

FME as the ‘ETL glue’ to transform and transport the data to all the various platforms

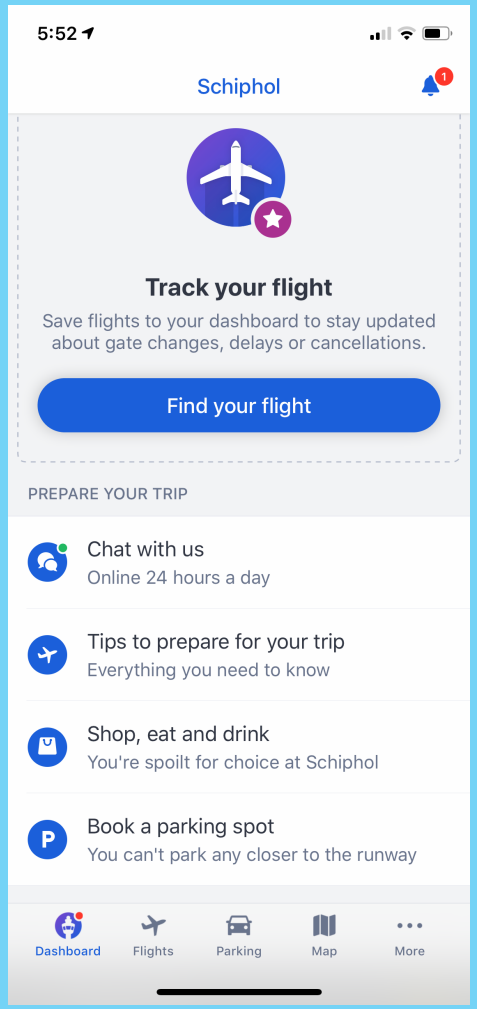


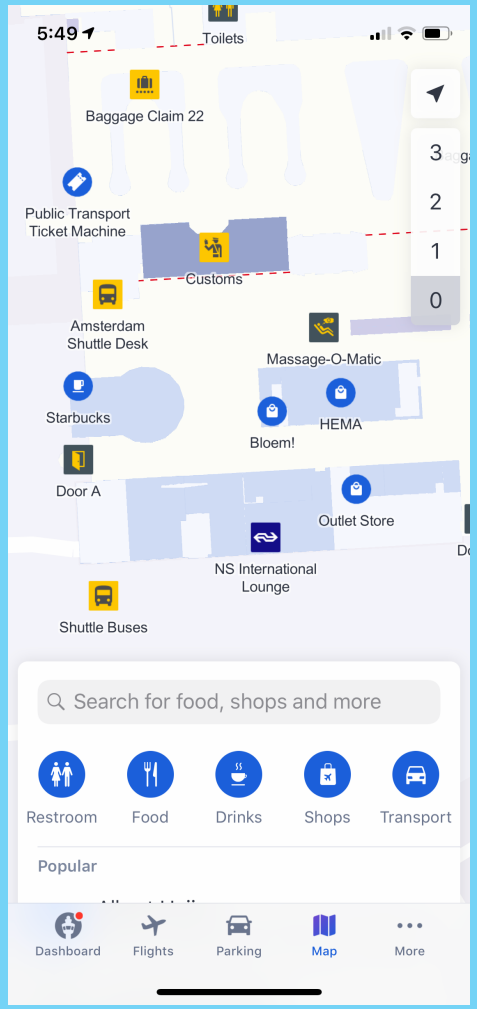


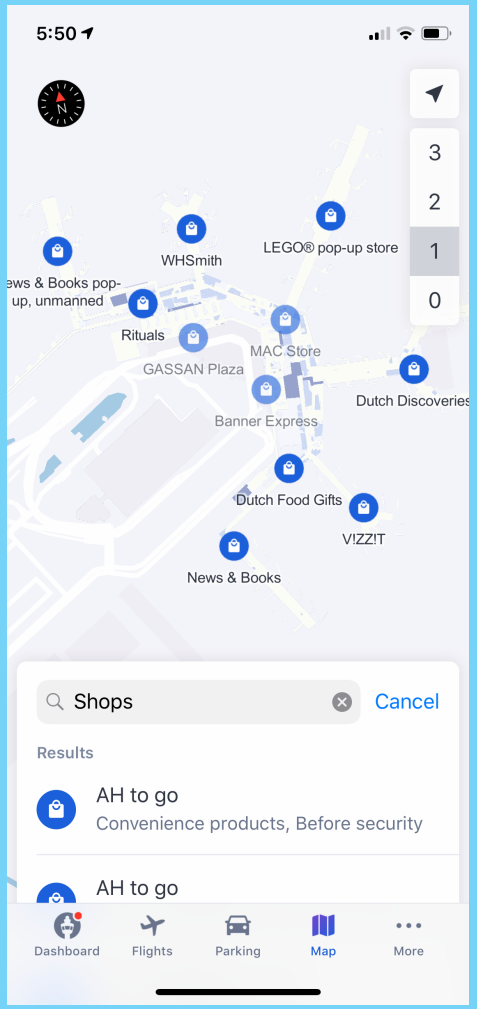
CASE STUDY: SCHIPHOL AIRPORT

A focus on improving the passenger experience to increase customer satisfaction

- Create ’one source of the truth’ and output it to multiple different formats
- Allow for indoor wayfinding to create a seamless passenger experience
- Enable real-time updates of data to create realistic customer expectations, people can have confidence in


5:52
Schiphol
Track your flight
Save flights to your dashboard to stay updated about gate changes, delays or cancellations.
Find your flight
PREPARE YOUR TRIP
Chat with us
Online 24 hours a day
Tips to prepare for your trip
Everything you need to know
Shop, eat and drink
You're spoilt for choice at Schiphol
Book a parking spot
You can't park any closer to the runway
Dashboard
Flights
Parking
Map
More


5:49
Toilets
Baggage Claim 22
Public Transport Ticket Machine
Customs
Amsterdam Shuttle Desk
Massage-O-Matic
Starbucks
Bloem!
HEMA
Door A
Outlet Store
NS International Lounge
Shuttle Buses
3
2
1
0
Search for food, shops and more
Restroom
Food
Drinks
Shops
Transport
Popular
Dashboard
Flights
Parking
Map
More


5:50
WHSmith
LEGO® pop-up store
Rituals
MAC Store
GASSAN Plaza
Dutch Discoveries
Banner Express
Dutch Food Gifts
V!ZZ!T
News & Books
3
2
1
0
Shops
Cancel
Results
AH to go
Convenience products, Before security
AH to go
Dashboard
Flights
Parking
Map
More

CASE STUDY: VANCOUVER INTERNATIONAL AIRPORT (YVR)

Significant challenges to passenger experience in managing a substantially growing airport

- Continually growing and developing the airport to allow for significant increases in passenger volume
- Construction of new gates, security checkpoints and facilities
- Ongoing changes to layouts, and alterations as construction takes place to facilitate growth

CASE STUDY: VANCOUVER INTERNATIONAL AIRPORT (YVR)

Passenger experience at the forefront of the airport's strategy

- YVR won the award for best airport in North America for 7 consecutive years
- 96% customer satisfaction with the airport in 2016
- Indoor mapping was identified as a key component of not only limiting the impacts of growth, but enhancing the customer experience

CASE STUDY: VANCOUVER INTERNATIONAL AIRPORT (YVR)

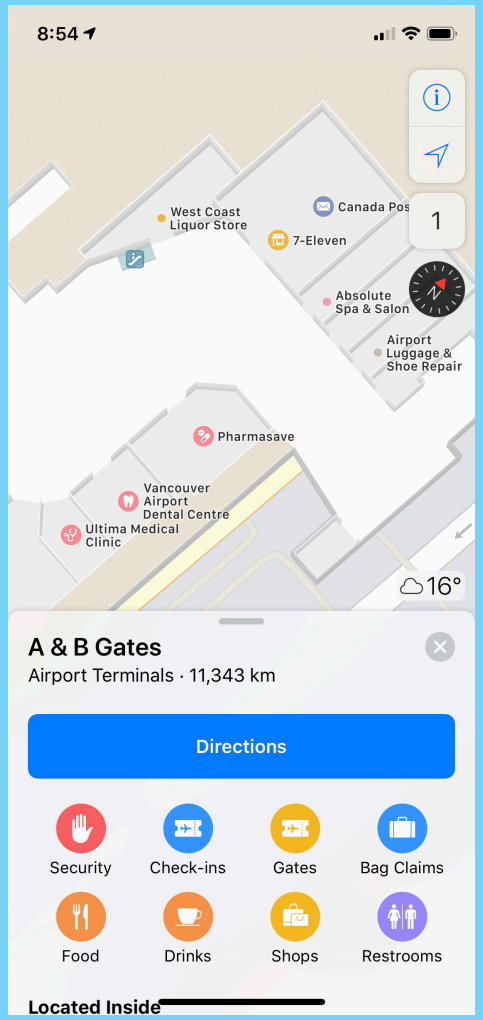
Initial barriers to create a valid indoor mapping product were solved by creating a series of FME workflows

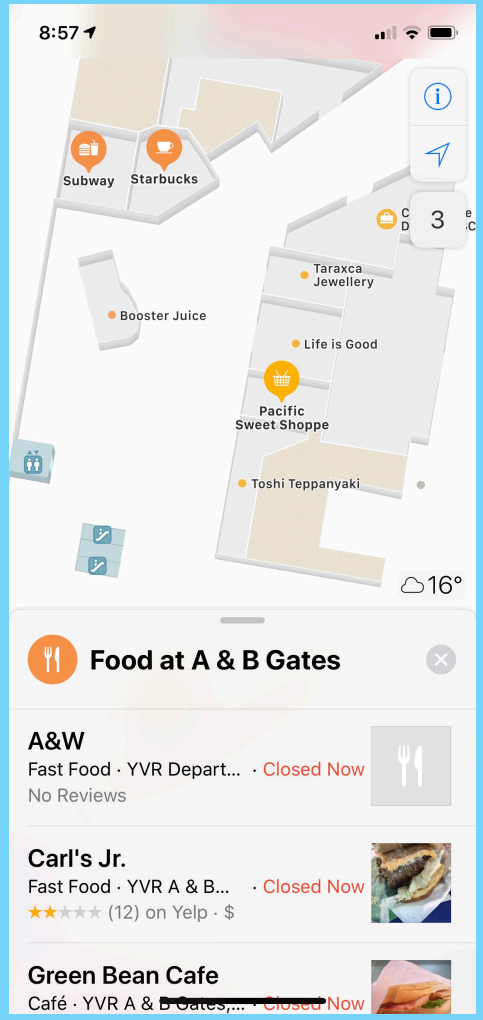
- Floor plans were held entirely in CAD drawings and needed to be converted to various outputs
- Wanted to output data suitable for Apple Maps, YVR's custom mobile application, and distribute over a public API

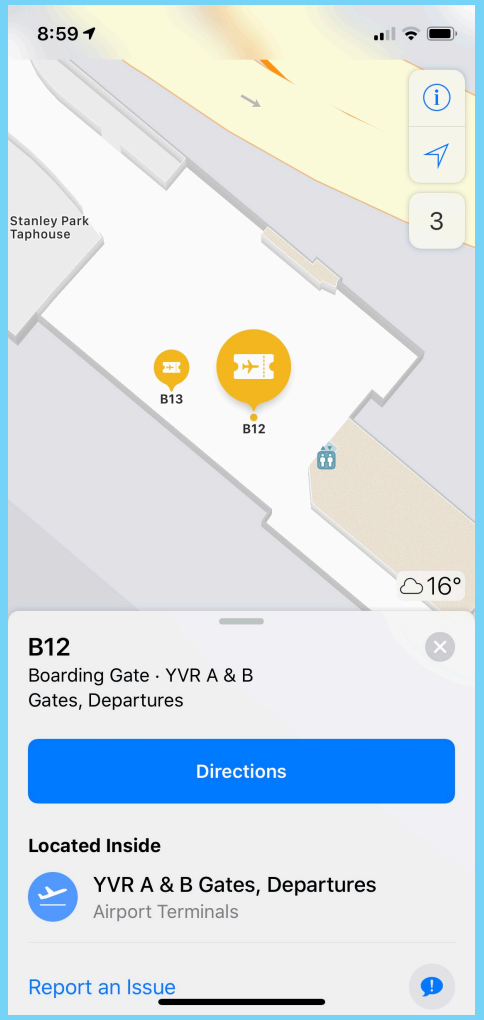
CASE STUDY: VANCOUVER INTERNATIONAL AIRPORT (YVR)

Four stage process to transform and output the data for various applications

- Create an internal view of YVR for staff, with an extremely high level of detail
- Simplified version of data for passengers and members of the public
- Uploading simplified data to developers and application providers – such as YVR's custom application
- Refine data further and submit to Apple for inclusion in Apple Maps


8:54
West Coast Liquor Store
Canada Post
7-Eleven
1
Absolute Spa & Salon
Airport Luggage & Shoe Repair
Pharmasave
Vancouver Airport Dental Centre
Ultima Medical Clinic
16°
A & B Gates
Airport Terminals · 11,343 km
Directions
Security
Check-ins
Gates
Bag Claims
Food
Drinks
Shops
Restrooms
Located Inside


8:57
Subway
Starbucks
3
Taraxca Jewellery
Booster Juice
Life is Good
Pacific Sweet Shoppe
Toshi Teppanyaki
16°
Food at A & B Gates
A&W
Fast Food · YVR Depart... · Closed Now
No Reviews
Carl's Jr.
Fast Food · YVR A & B... · Closed Now
(12) on Yelp · $
Green Bean Cafe
Café · YVR A & B Gates,... · Closed Now


8:59
Stanley Park Taphouse
3
B13
B12
16°
B12
Boarding Gate · YVR A & B Gates, Departures
Directions
Located Inside
YVR A & B Gates, Departures
Airport Terminals
Report an Issue

CASE STUDY: VANCOUVER INTERNATIONAL AIRPORT (YVR)

Improving the passenger experience while managing growth and change in the facility

- Indoor mapping an essential component to managing growth and maintaining passenger experience
- Ability to notify passengers of new services as the terminal is continually redeveloped
- Accessible to everyone through a variety of applications, and using kiosks within the terminal

LOCUS

New Zealand, Australia and Beyond.

WHY WORK WITH LOCUS?

- Safe Software Partner and Platinum Value-Added Reseller of FME
- A team of business practitioners together with superior technical expertise delivering measurable value that will save your business time, and money
- Customised data integration solutions, certified FME training, support and maintenance packages

NEXT STEPS

- New to FME? Complete the online form and try it for free - https://www.safe.com/fme/fme-desktop/trial-download/?refPRM3000000V7MUXAAZSAF

- Looking to get started with Indoor Mapping? Talk to us about preparing a proof of concept for the mapping of an existing building/facility

- Locus is exhibiting at the Australian Airports Association (AAA) National Conference 19-22 November, Gold Coast - Connect with us at Booth 75 and meet Don Murray co-founder Safe Software along with Ruby Donaldson, Kieran O'Donnell and Darren Fergus of Locus

NEW ZEALAND
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AUSTRALIA
Ruby Donaldson
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Try FME for free at locus.co.nz/try-fme-for-free/
THANK YOU!
Any questions we can answer?
LOCUS
Manage your data with Locus and FME®