FarrPoint

# Workshop - Data Centres Part 1

Rural Options

CRRBC WESTERN CANADA 2025

Certified B Corporation

# About me

**Alan Pritchard**

Principal Consultant


Completed **507** projects globally

**5** international offices in the UK, Canada and US

Advised on **£4 billion** worth of infrastructure

**100%** staff think we have great company culture and would recommend working at FarrPoint

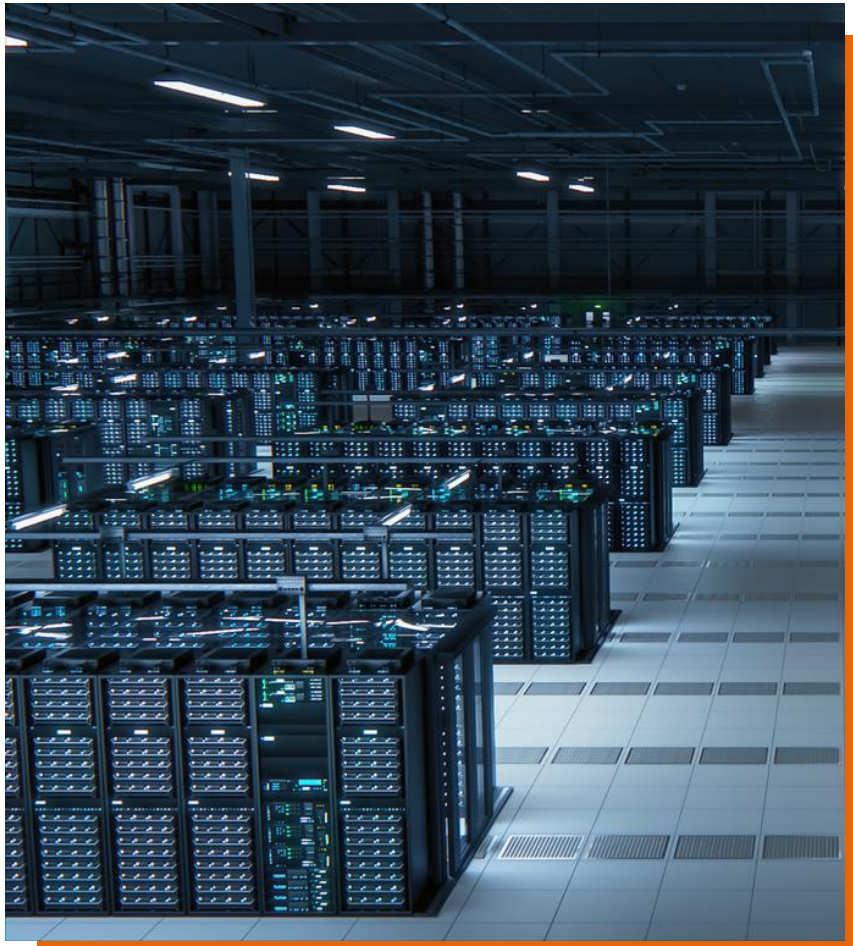
Longest client engagement **15 years** and counting

**178** clients worked with internationally

We've been around for **19 years**

# Workshop Introduction

- What is a Data Centre?
- Drivers of increased Data Centre demand
- The benefits of Data Centres
- Key considerations for Data Centre location
- Workshop Activity
- Wrap Up
- Data Centres Part 2 - Financial Modelling



# What is a Data Centre?

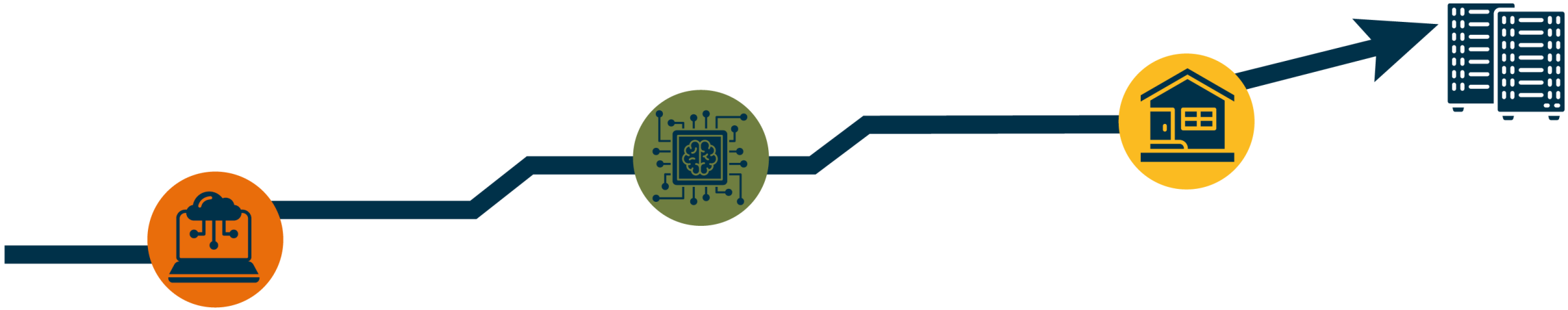
A **Data Centre** is a secure facility housing servers, storage and networking equipment.

**"Green" Data Centres** use energy-efficient technologies to minimise environmental impact, primarily source energy from renewables.

Types:

| | TYPE | USERS |
|---|---|---|
|  HYPERSCALER | **Large**-scale facility (100MW+, 10 hectares+) massive computing, storage, and networking. huge power requirements and significant waste heat. International market. | Operated by major cloud providers or tech companies (e.g. Amazon, Apple, Google, Meta, Microsoft, etc.) offering digital services. NeoClouds are also a developing market. |
|  CO-LOCATION DATA CENTRE | **Medium** sized facilities (10's of MW, 2-10 hectares ) businesses rent space to house servers – incl. shared power, cooling, security, and connectivity - regional, national, or international markets. | Retail colocation focussed on renting to multiple customers (each <1 MW). Wholesale colocation data focused on renting to customers (with >1 MW) - can incl. the 'built-to-suit' data centres for single customer. |
|  EDGE DATA CENTRE | **Smaller** facilities located close to users reducing latency by caching (1-2MW, 10,000 sq ft ). Support applications like IoT, streaming, optimise performance/ enable real-time experience. | Manufacturers, telecom providers, healthcare, retail, smart cities, autonomous vehicles, energy, finance, and defence - low-latency, real-time processing. |

# Drivers of increased Data Centre demand



## CLOUD COMPUTING

- Rise of cloud computing has been a major growth in data centre demand.
- Cloud service providers such as AWS Azure, Apple, and Google, require extensive data centres to operate their services.
- The shift from on-premises IT to cloud increases demand for data centres.

## BIG DATA AND AI ANALYTICS

- Proliferation of 'big data' generated by digital interactions, social media, connected devices, and Internet of Things has created a need for advanced data analytics. => Data Centres
- AI Training and Inferencing requires specialised IT hardware ( GPU/TPU) with large power demands => Data Centres

## HOUSEHOLD DEMAND

- growth of e-commerce, online streaming services, social media networks, and other digital services has increased the demand for data centre services.
- remote working practices and the transformation of many government services online continue to drive households to digital => Data Centres

# The benefits of Data Centres

NEW DATA CENTRE

**BUILD AND OPERATIONAL**

**UNDERPINNING ECONOMY**

| | NATIONAL IMPACTS | LOCAL IMPACTS: |
|---|---|---|
| **BUILD AND OPERATIONAL** | **Direct Construction Impact** - Construction jobs to build and fit out the data centres.<br><br>Related build **Supply Chain Impact** from the production of components of the data centre.<br><br>**Longer Term Operation Impact** to maintain and secure the site<br><br>**Longer Term Supply chain impacts** such as energy and maintenance equipment suppliers<br><br>Wider **Induced Impact on Economy** of jobs created in the build and operation of the data centre | A new data centre would likely lead to a **small number of local jobs** in the building/ operation of the data centre.<br><br>However, many of the supply chain jobs will be **contracted in by the supplier from international sources** (e.g. fit out, component supply). This would result in any related economic benefit being experienced by businesses and workers outside of the region. There is also an opportunity to **reuse excess heat** from data centres. |
| **UNDERPINNING ECONOMY** | Data Centres are a **core and increasingly sovereign component of digital** infrastructure.<br><br>This **enables a huge range of economy activity**, from e-commerce, banking and cloud computing. Supporting advancements in AI, IoT, and big data analytics, driving productivity and economic growth. Growth in data centres is key to enabling this activity. However, **each new data centre does not lead to a specific amount of new economic activity** as digital connectivity is based upon a huge international network of data centres. | Whilst new **data centres undoubtedly support economic activity reliant on digital connectivity**, the location of the data centres does not impact this.<br><br>There is **limited evidence of data centres leading to new technology clusters**, as access to "local" data centres is not seen by the majority of businesses as a key driver in where they locate. |

# Key site considerations for Data Centres

Three prime factors for identifying a new Data Centre location :

### LAND AVAILABILITY

Ensuring that there is a **physical, secure** plot of land to house the data centre are key (**planning/permitting** considerations)

### POWER AVAILABILITY

Given **significant power** requirements to operate and **cool** the data centre, access to and **cost of reliable electricity** is essential.

### CONNECTIVITY

Availability of **diverse resilient fibre** connecting to **national and international** networks

## Other considerations:

**Established Market**
Current existing clustering of data centres

**Cost**
Labour and land costs (alongside power) can influence location

**Skills Base**
Current availability of digital and data science skills

**Security**
Data security/ privacy concerns mean ensuring location is secure/ data protection compliance

**Government**
Regulatory and fiscal regime alongside any short/ long term initiatives can also attract investment

**Hazard Proximity**
Location free from natural and manmade hazards

**Established Data Centre Market & key Sectors**
Is the location already close to established data centre markets

# Workshop Activity

## What would having a new Data Centre mean to the community?

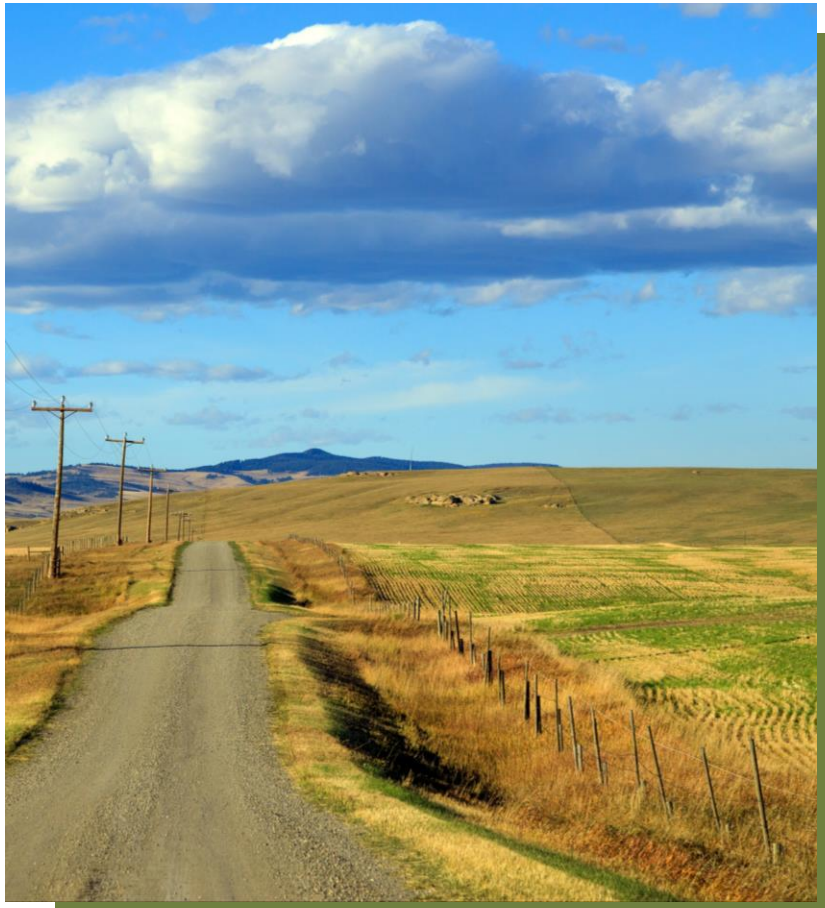
- Construction and maintenance jobs?
- Stimulate the local economy and increasing innovation?
- Attract other inward investment?
- Data sovereignty?

## Are there suitable sites?

- Is there available suitable land with robust transport links?
- Does it have access to sufficient power, water and fibre?
- Are there locations where the heat generated by the Data Centre could be reused/recycled?
- Worked Example 1-2MW Edge facility - Data Centres Part 2- Financial Modelling

## What type of Data Centre would fit your community?

- What would be the key driver for a Data Centre to be located in the local community – jobs, data storage, AI ?
- What size of Data Centre would be most appropriate within the local landscape / community – hyperscaler (large), co-location (medium) or edge (small)?
- Could the community support more than one Data Centre of differing sizes?



# What would the benefits be?

# Are there suitable sites?

# Is there demand for data centres in rural communities?

# Workshop Wrap Up

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