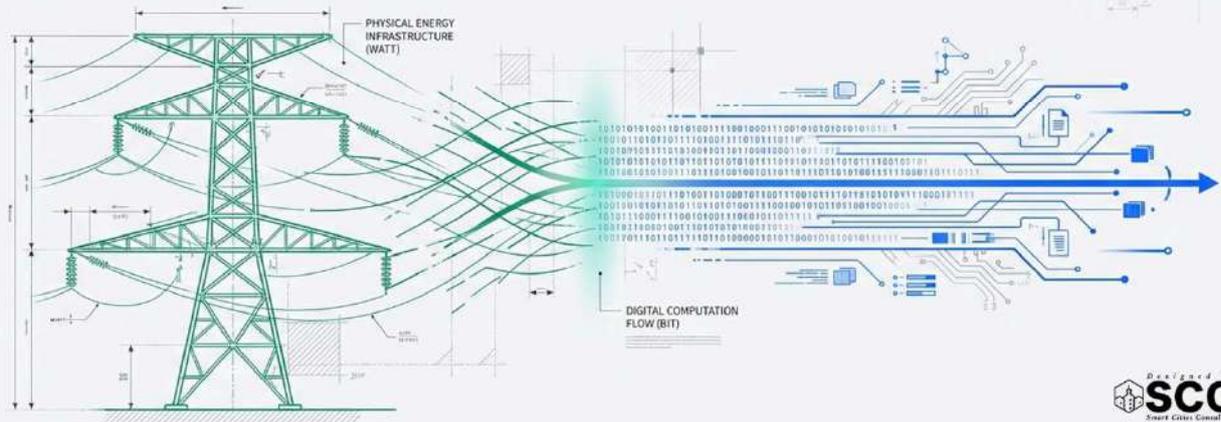


從「瓦特」到「比特」： 能源與算力的深度融合

中國「源網荷儲算」一體化戰略與資源配置的底層重構



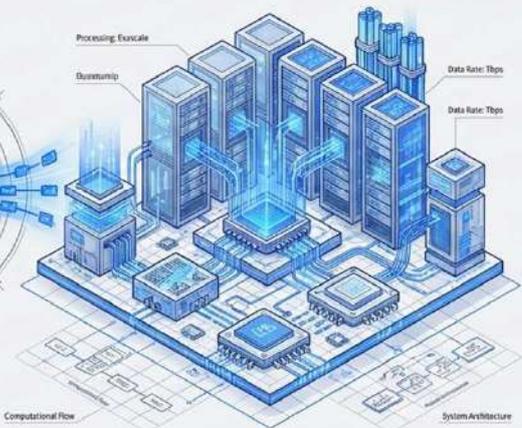
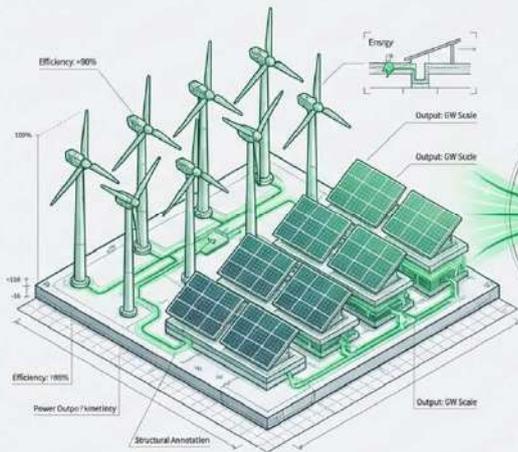
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Smart Cities Consulting
2030 戰略展望

1

資源配置邏輯的底層重構

能源轉型 (Energy Transition)

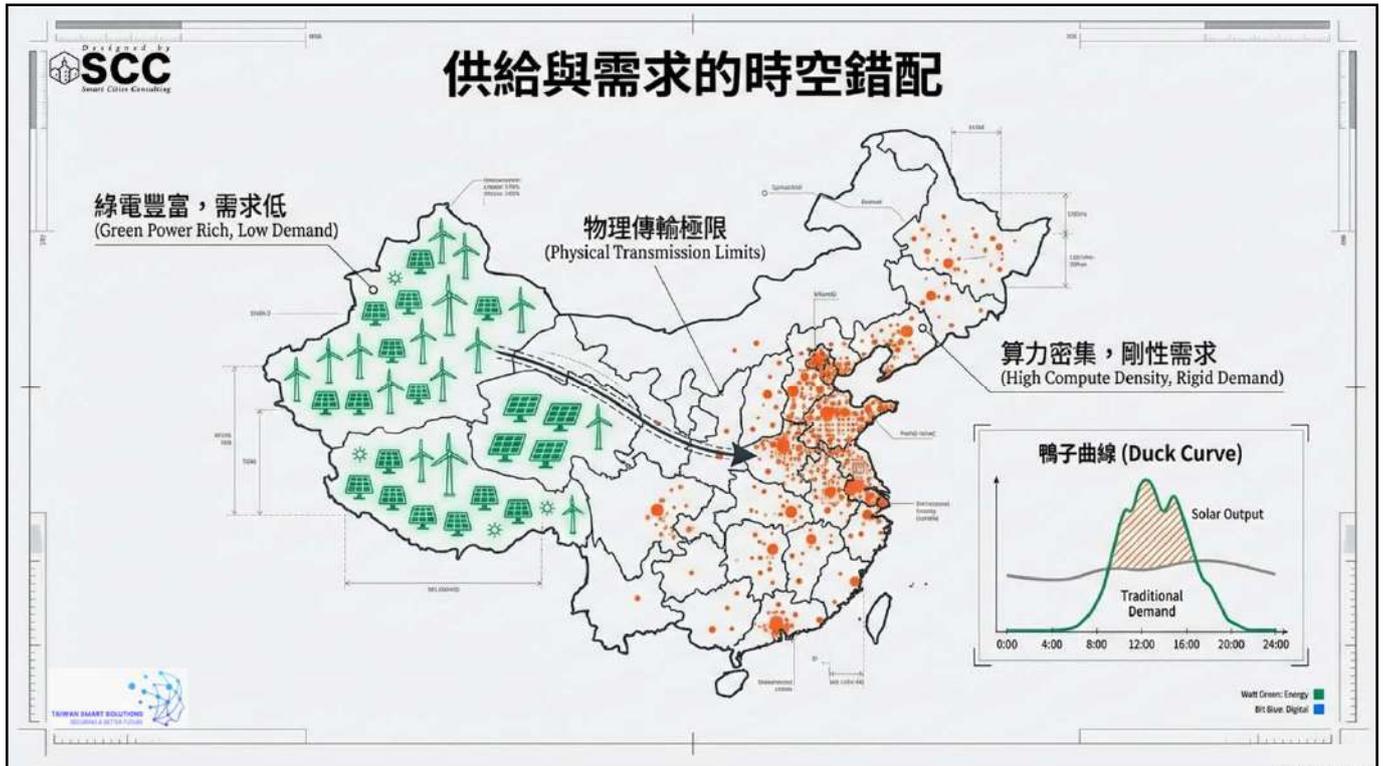
數位化轉型 (Digital Transformation)



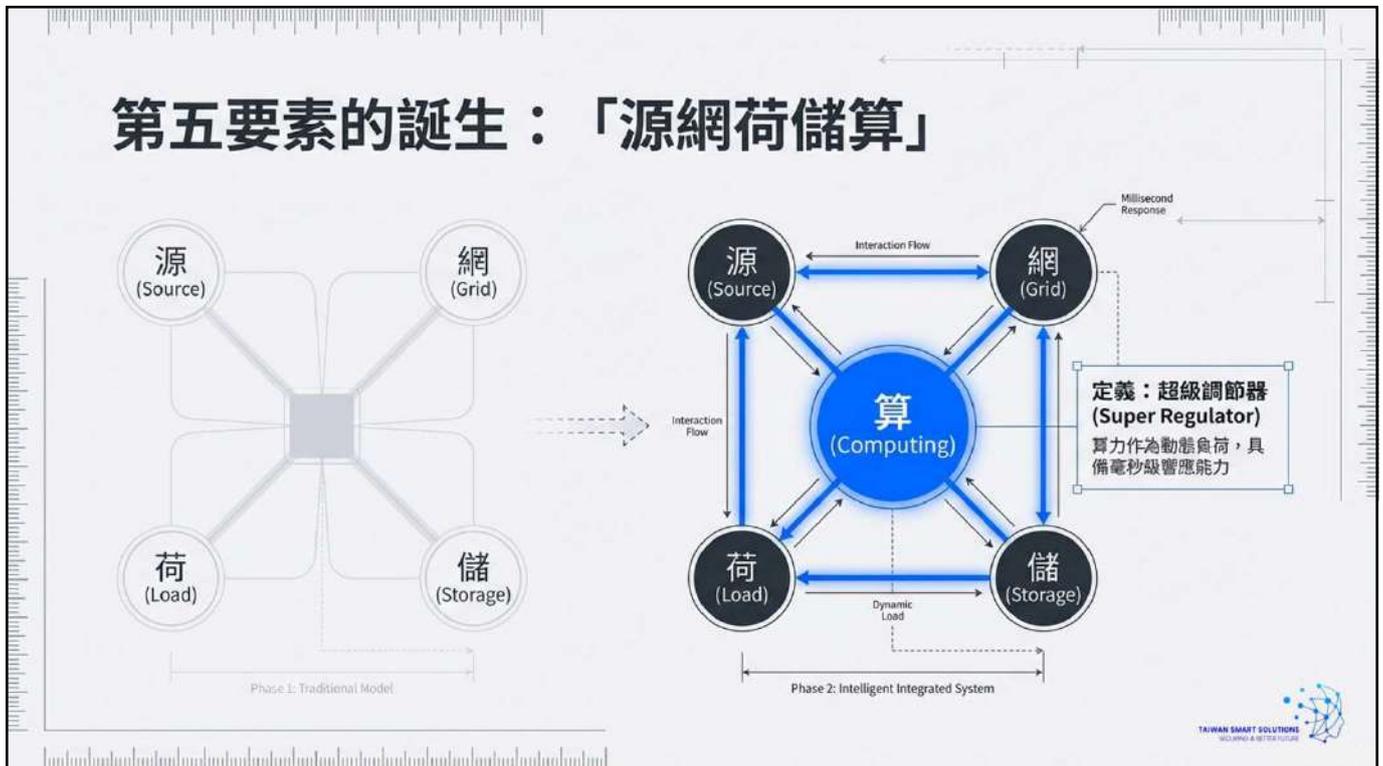
核心挑戰：新能源供給（西部/波動）與算力需求（東部/剛性）的時空錯配。
核心戰略：「以數代能」。將能源的物理傳輸壓力轉化為數據的數位調度彈性。

Watt Green: Energy
Bit Blue: Digital

2



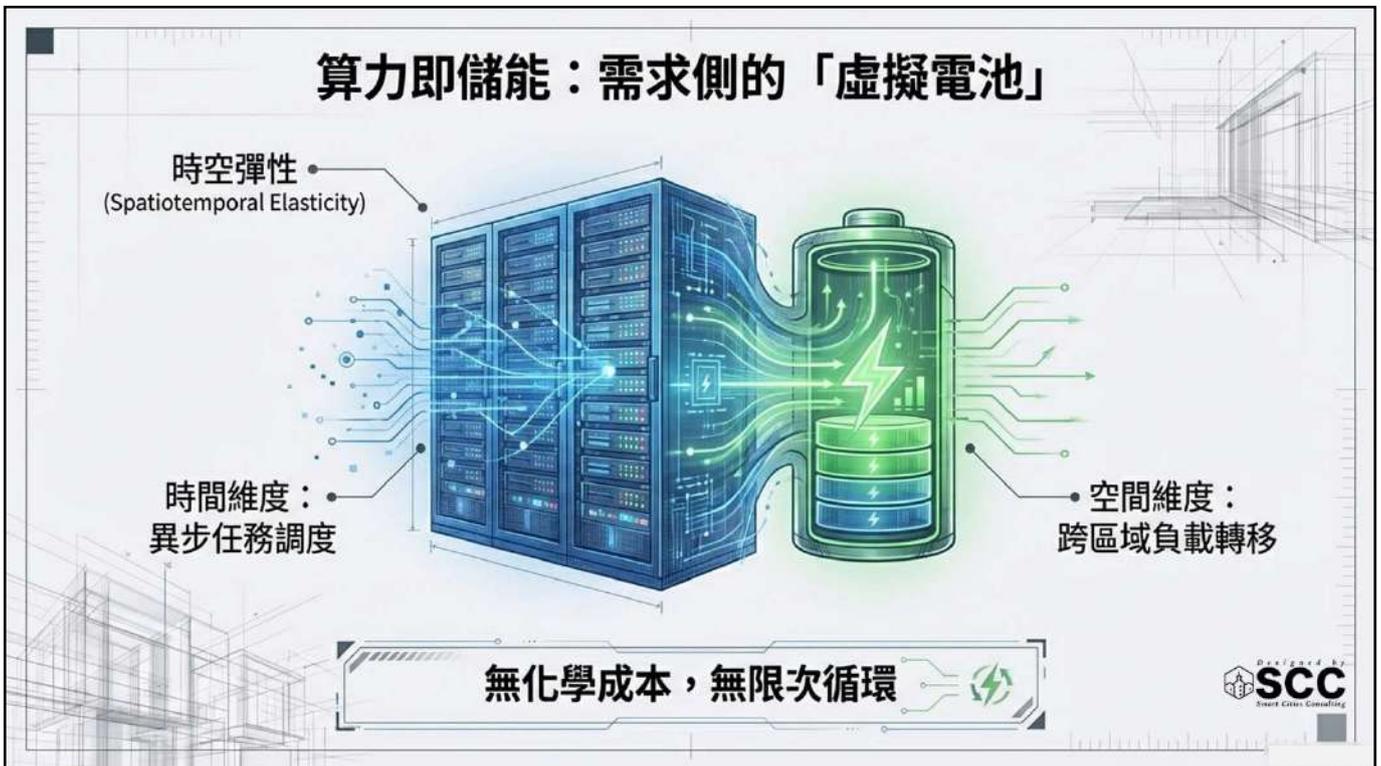
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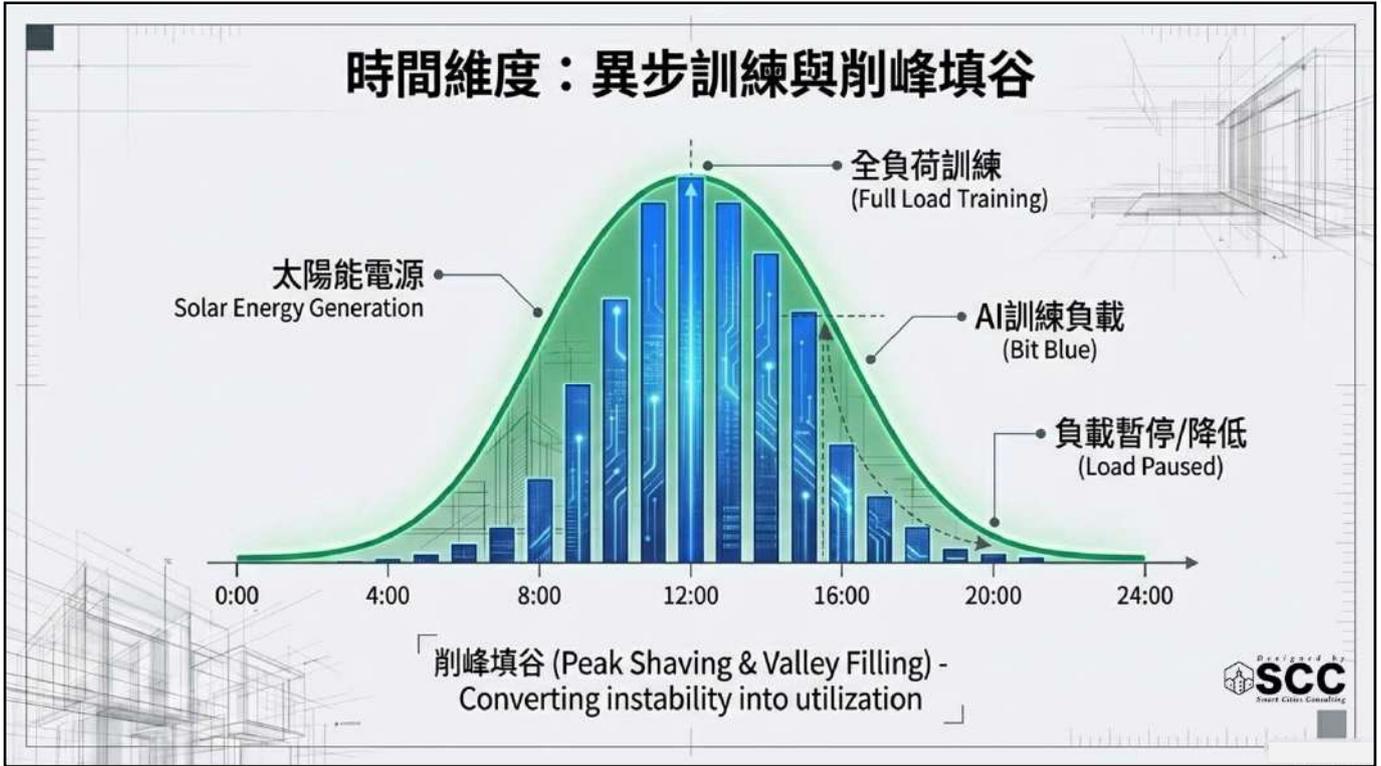
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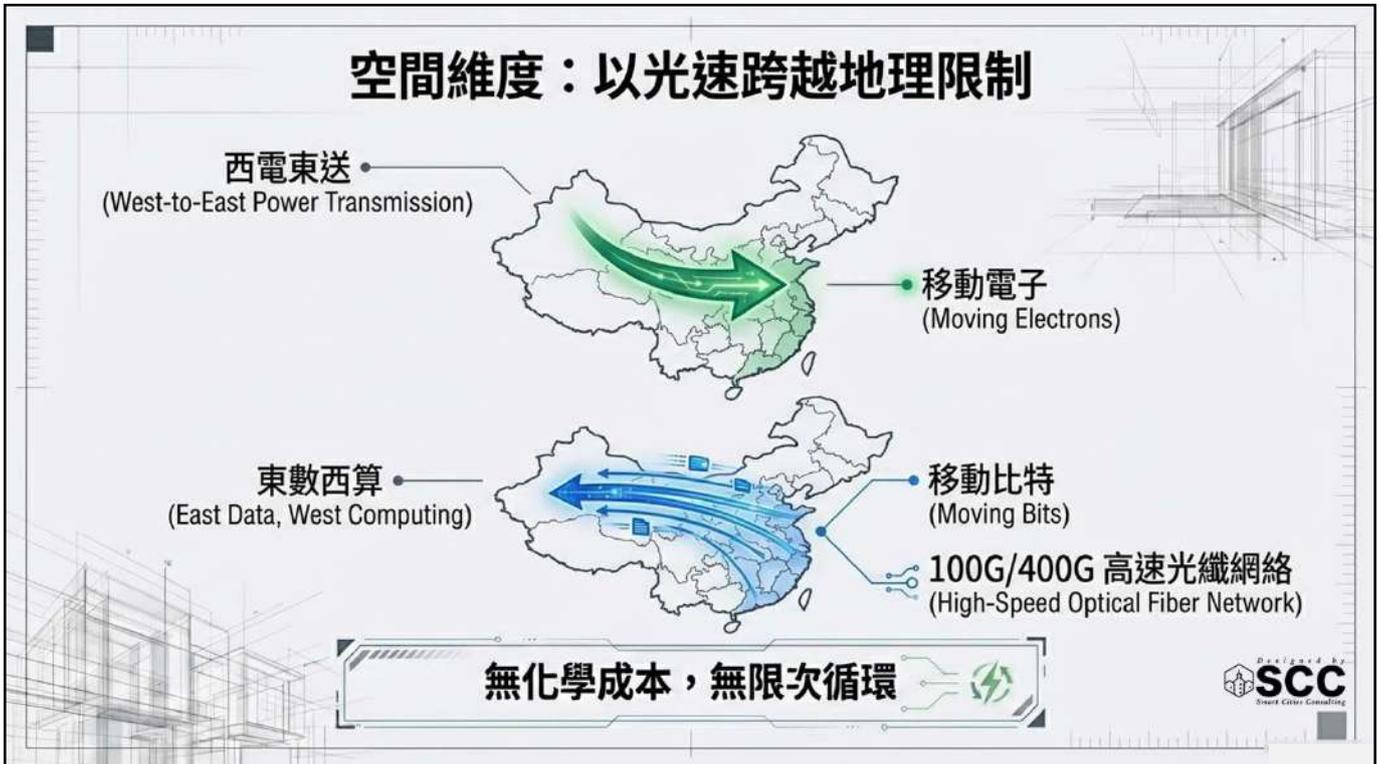
5



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8

基礎設施帳本：物理電網 vs. 數位管道

物理電網 (Physical Grid)

- 物理損耗高
- 建設週期 3-5 年
- 特高壓通道飽和

數位管道 (Digital Pipeline)

- 擴容成本低
- 低能量損耗
- 提升全要素生產率

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運營帳本：AI 浪潮下的成本決勝點

Operational Ledger: The Cost Tipping Point in the AI Wave

數據中心 TCO
(Total Cost of Ownership)

電力成本 >50%
(Electricity Cost >50%)

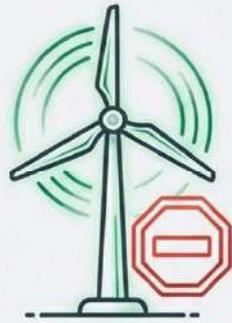
電價對比 (Electricity Price Comparison)

西部非化石能源發電佔比 36% (2022)
(West Non-fossil Energy Power Generation Ratio 36% (2022))

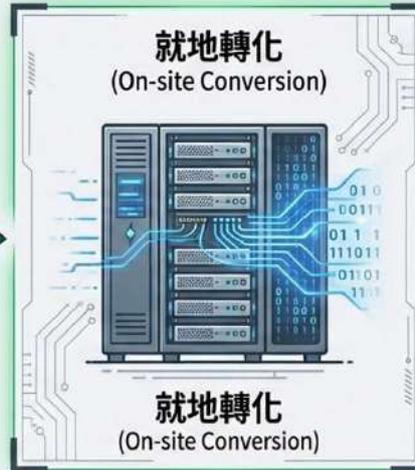
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變廢為寶：棄風棄光的價值轉化



棄電
(Curtailed Electricity)



就地轉化
(On-site Conversion)

就地轉化
(On-site Conversion)



算力輸出
(Compute Output)

解決間歇性問題，將廢棄能源轉化為高商業價值數據服務。



11

綠色溢價：國際貿易的 ESG 門票



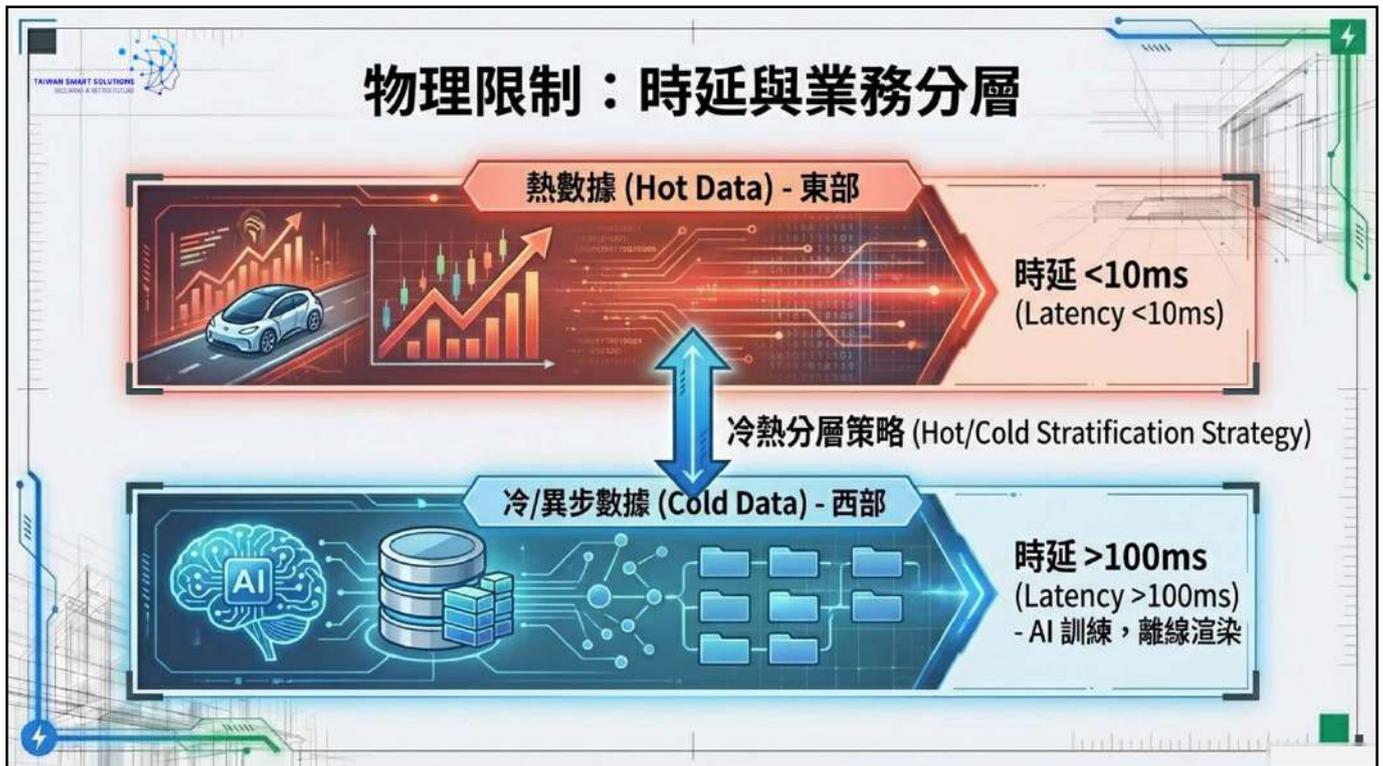
⚡ 綠色算力
(Green Computing Power)

⚡ 低碳溢價
(Low Carbon Premium)

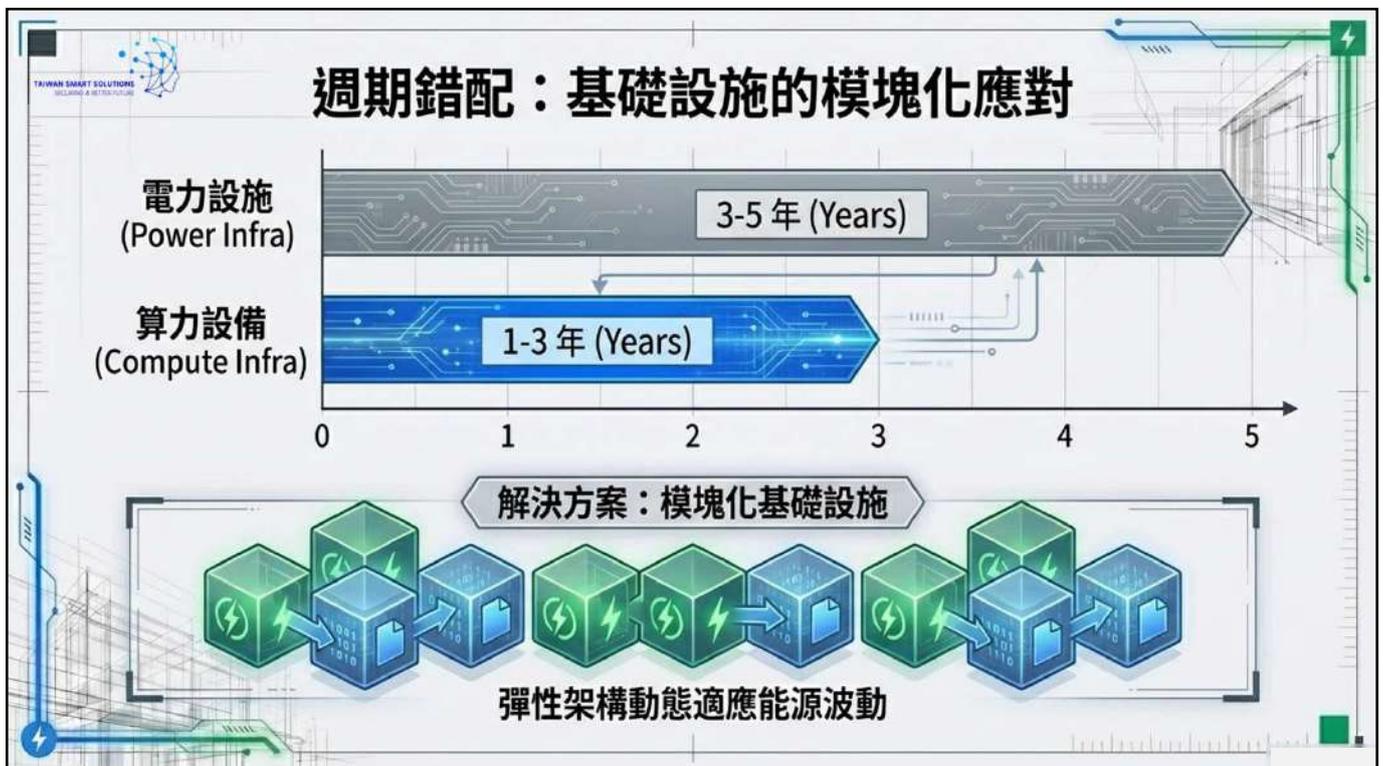
⚡ 助力企業達成全球 ESG 目標
(Achieving Global ESG Targets)



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15



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算電融合：高質量增長的唯一確定性

高比例新能源消納
(Renewable Consumption)

數位經濟高質量增長
(Digital Economy Growth)

碳達峰窗口期的戰略機遇
從瓦特到比特的跨界躍遷

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TAIWAN SMART SOLUTIONS
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算力，將像水電一樣， 成為標準化的基礎公用事業。

—— 邁向 2030

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