



Sir Arthur Lewis  
Memorial Lecture

Confronting the Fourth  
Industrial Revolution

Cecil St Jules

November 6<sup>th</sup> 2019

# Overview

Sir Arthur  
Lewis

Introduction

Historical  
Frame

Third  
Industrial  
Revolution

Then and Now

Modern  
Payment  
Systems

Fourth  
Industrial  
Revolution

Power  
Generation

Artificial  
Intelligence

Resilience

New  
Technology

Governance  
and Anti-  
Corruption

Options for  
growth



## Cecil St. Jules

- Wall Street Veteran
- 28 Years in Money Center Finance
- BNYMellon
- Aponia Data (GRC)
- Emtech (Blockchain Fintech)
- Cricket
- Guitar
- Formula One Racing

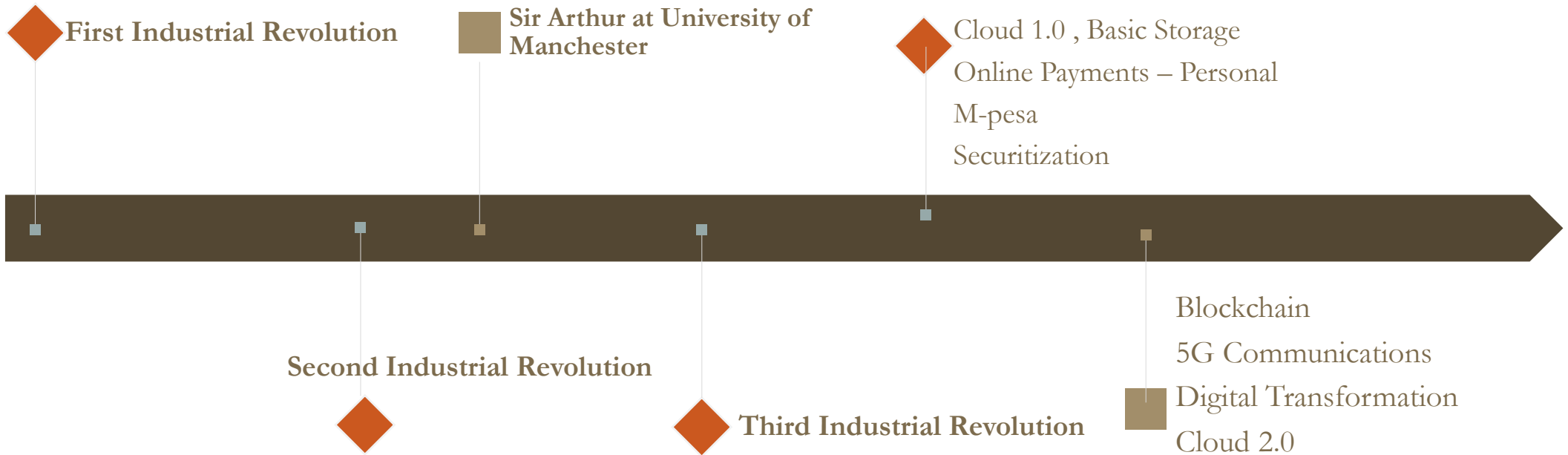
## My Story



Core of US Bond Market  
Shadow Banking  
Sept 11<sup>th</sup>, 2001 Recovery  
Housing Crisis/Asset Valuation  
Post Crisis Management



# History



# Third Industrial Revolution

- Global Positioning System
- Handheld computing
- Cellular Networks
- Basic Cloud Storage
- Development of eCommerce platforms

# Major Differentiators

Colonial Economies, Under-educated Population,  
Limited Mechanisms for Capital Formation

...Financing Systems, Education levels,  
Trade Liberalization, Technology, Values

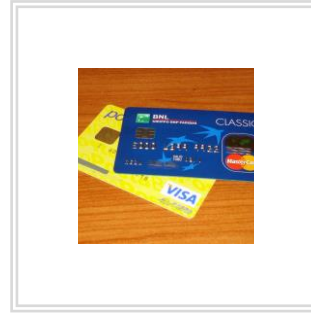
# Evolution of Payment Systems



Gold Coins



Currency



Online Payments

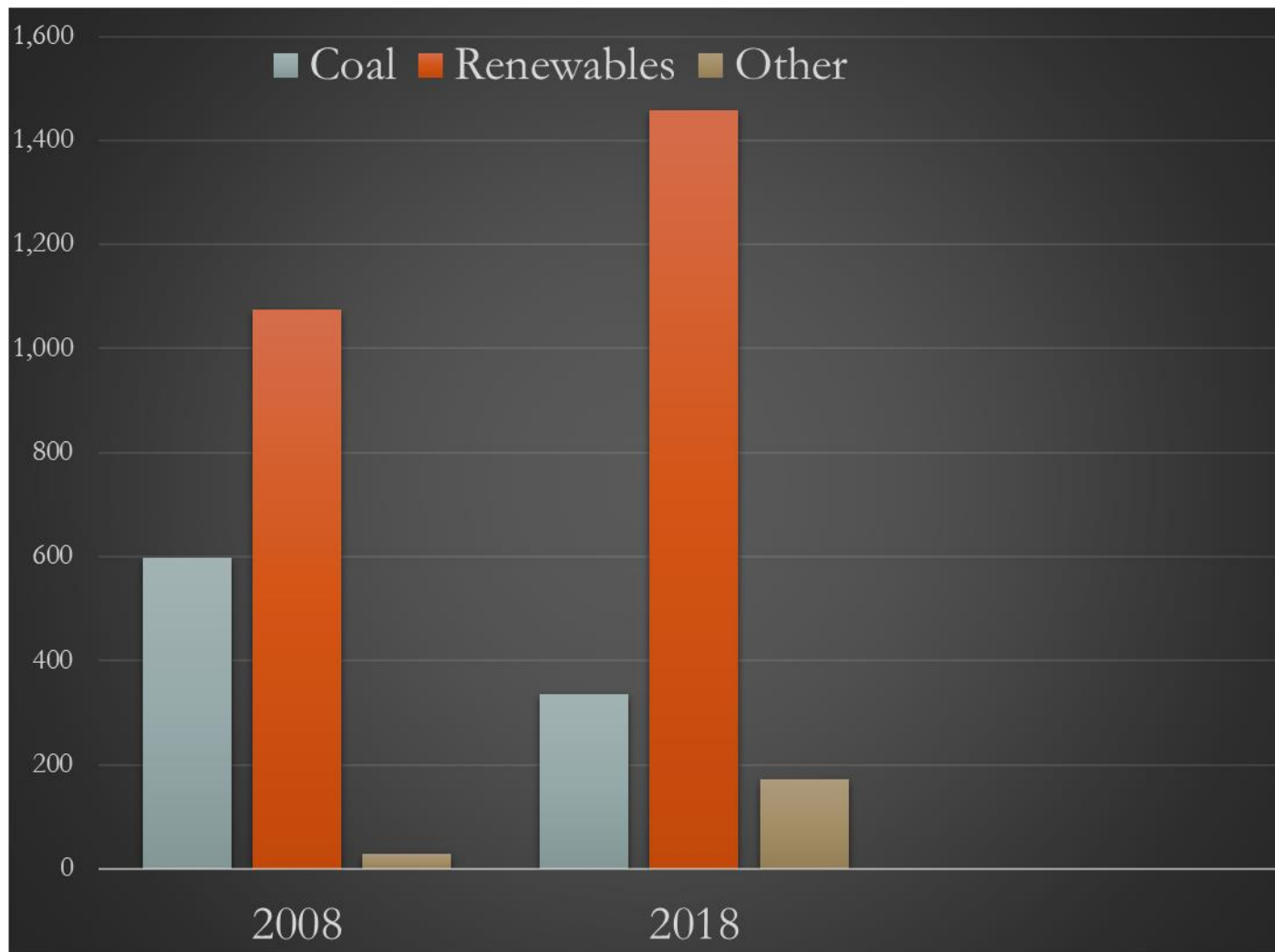


Blockchain



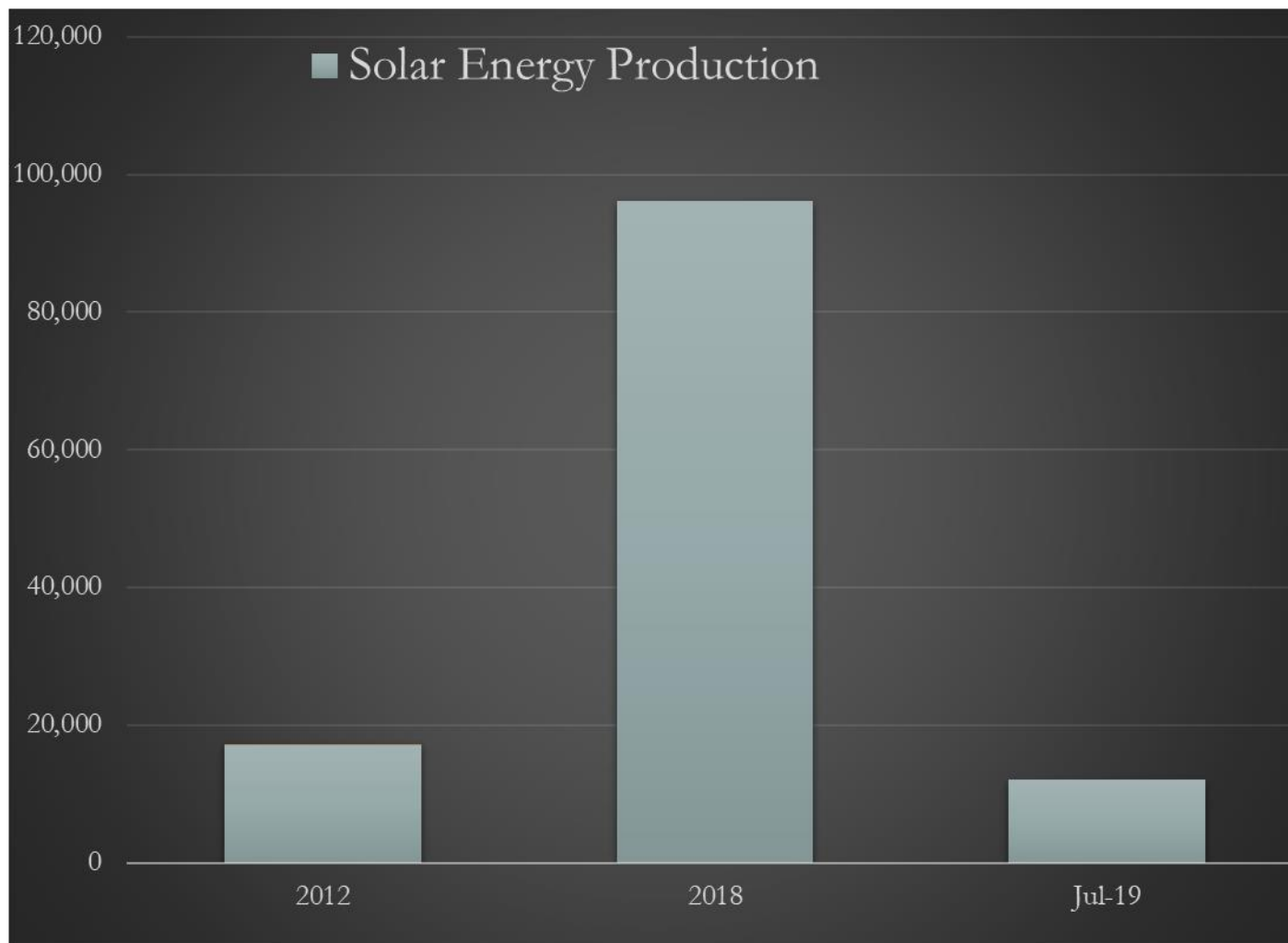
# Fourth Industrial Revolution

- Power Generation/Renewables/Solar
- Digital transformation/Cloud 2.0
- Shared Economy/Millennials
- Environmental, Compliance and Governance factor into Cost of Capital
- Blockchain Technology/Smart Contracts/Stable Coin
- Robotics/Artificial Intelligence/Deep Learning
- Rapid Scalability/Variable Cost Model
- Centralized Policy Control



Number of US power plants 2018 -predominant source (Coal vs Renewables)

Source: US Energy Information Admin



kWhs produced (millions)

Source: US Energy Information Admin

# An Example of the use of AI to convert unstructured data

AJ Analytics connections to Unstructured Data is the future of Audit Testing

This on-site investigation focused on the performance of the **Certified Advanced 208-Compliant air bag system** in a **2005 Ford Escape XLT 4x4** sport utility vehicle. This **two-vehicle crash** occurred in **July 2014** at **1539** hours in the state of Colorado.



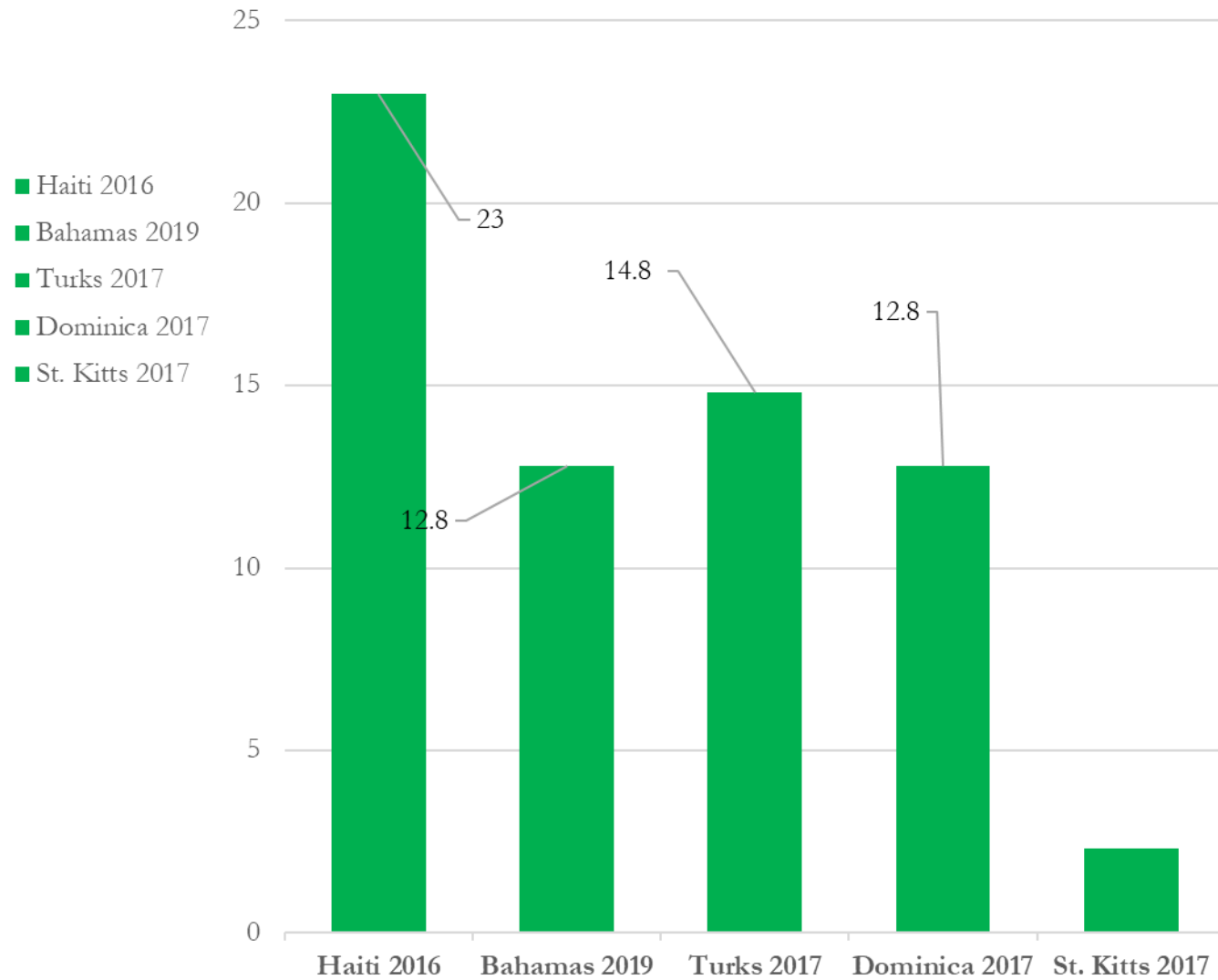
Part of car	<b>Certified Advanced 208-Compliant air bag system</b>
Model year	<b>2005</b>
Manufacturer	<b>Ford</b>
Model	<b>Escape XLT 4x4</b>
Incident	<b>Two-vehicle crash</b>
Date of incident	<b>July 2014</b>
Time of incident	<b>1539</b>

# Increasing frequency of intense hurricanes

Category 4	130 – 156 mph	Well built frame homes can sustain severe damage Most trees snapped Power outage will last for weeks Most of area uninhabitable for weeks/months
Category 5	157 mph or higher	High percentage of frame homes destroyed Residential areas isolated Power outage will last for weeks possible months Most of area uninhabitable for weeks/months

# Pillars for Economic Recovery/Resilience

- Distributed power generation/Cost of refrigeration
- Expansion of parametric insurance/Agriculture/Fishing
- Architecture/Hurricane resilient structures
- Cloud data-based storage
- Centralized administration of health records



## Major Parametric Insurance Payouts (CCRIF SPC)

Source: CCRIF SPC

# Benefits of Modern Cloud based business model

No Investment in  
equipment

Benefits from  
updates

Compliance  
Updates

Reporting  
requirements

Scalable variable  
cost model

Synchronicity  
with personal  
apps



## UN Sustainable Development Goals (excerpt)

8.2 Achieve higher levels of economic productivity through diversification, technology upgrading and **innovation**, including through a focus on high-value added and labor-intensive sectors

8.3 Promote development-oriented policies that support productive activities, decent job creation, **entrepreneurship, creativity and innovation**, and encourage the formalization and growth of micro- small- medium sized enterprises, through **access to financial services**

8.10 Strengthen the capacity of domestic financial institutions to encourage and **expand access** to banking, insurance and financial services for all

# Human Factors for Digital Currency Adoption

- Governance framework
- Consumer education
- General acceptance/Use in basic commerce
- Overcoming fear
- Misinformation
- Tax evasion

# Infrastructure issues for Digital Currency Adoption

- Communication network and resilience in hurricane belt
- Regulations relating to taxing of virtual assets
- Regional/Global interoperability
- Reliance on AML/CFT process of counterparties
- Recognition of tax regimes and honoring international treaties

# Anti Corruption Guidance for Policymakers

- Improve mutually supporting institutions/Procurement/Revenue Admin/  
Heads of Agencies, ministries and public enterprises must promote ethical behavior
- Government need to keep pace with evolving technology  
Chile and Korea have online procurement platforms
- Promote transparency and free press  
Columbia, Costa Rica and Paraguay use online platforms where citizens can monitor the status of projects. A free press enhances the benefits of transparency

Source: Finance and Development, Sept 2019



OECES

Business Development  
Measures

Education and skills  
development

Business Incubation and  
Acceleration

Governance and Risk  
Management

Anti Corruption Measures

# Thank You



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