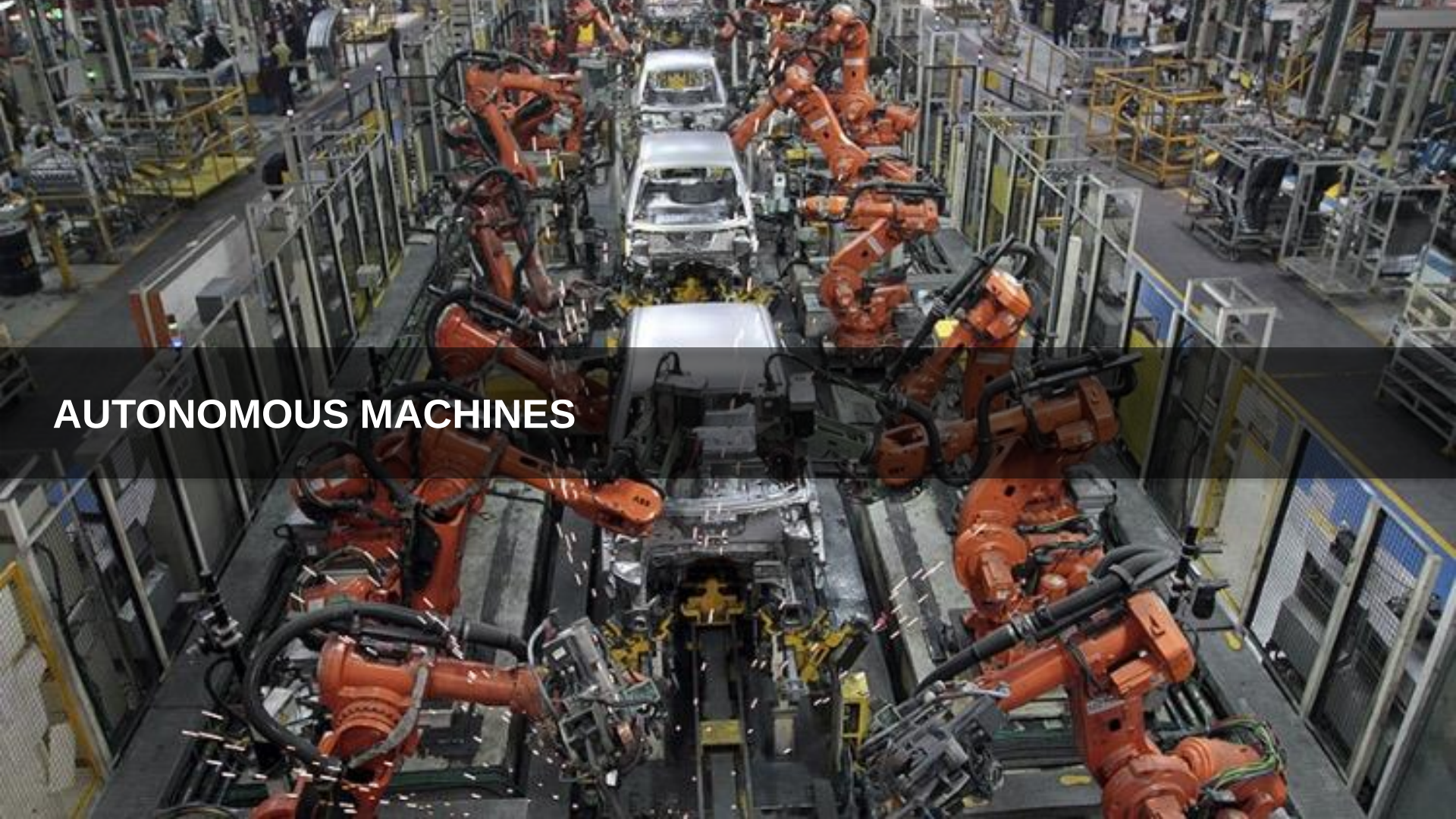
JEOPARDY!
The IBM Challenge

POKER
OPEN

ALPHAGO
00:00:54
LEE SEDOL
00:01:00
AlphaGo
Lee Sedol

AGE = Under 18
12:41 hrs
GENDER = FEMALE
TOTAL SUN PROTECTION = 23% INADEQUATE
2017.03.12
SYSTEM MAP
TEMPERATURE
L M H
ULTRAVIOLET LEVEL
L M H
EMOTIONS
HAPPY
SAD



AUTONOMOUS MACHINES

AUDIO VISUAL SERIES
PERSAN TECHNOLOGY
EHANG

THE COMING TRANSPORT REVOLUTION WILL RE-SHAPE OUR CITIES AND COMMUNITIES

The average vehicle is used only 4% of the time and parked the other 96%

THE WORLD'S FIRST FULLY AUTONOMOUS SEMI-TRAILER TRUCK DELIVERY OCT 16

Domino's

OUR MENU | LOCAL DEALS | STORE FINDER | DOMINO'S FRANCHISE | INSIDE DOMINO'S

VIP DAILY DEALS TO YOUR INBOX j.smith@email.com JOIN

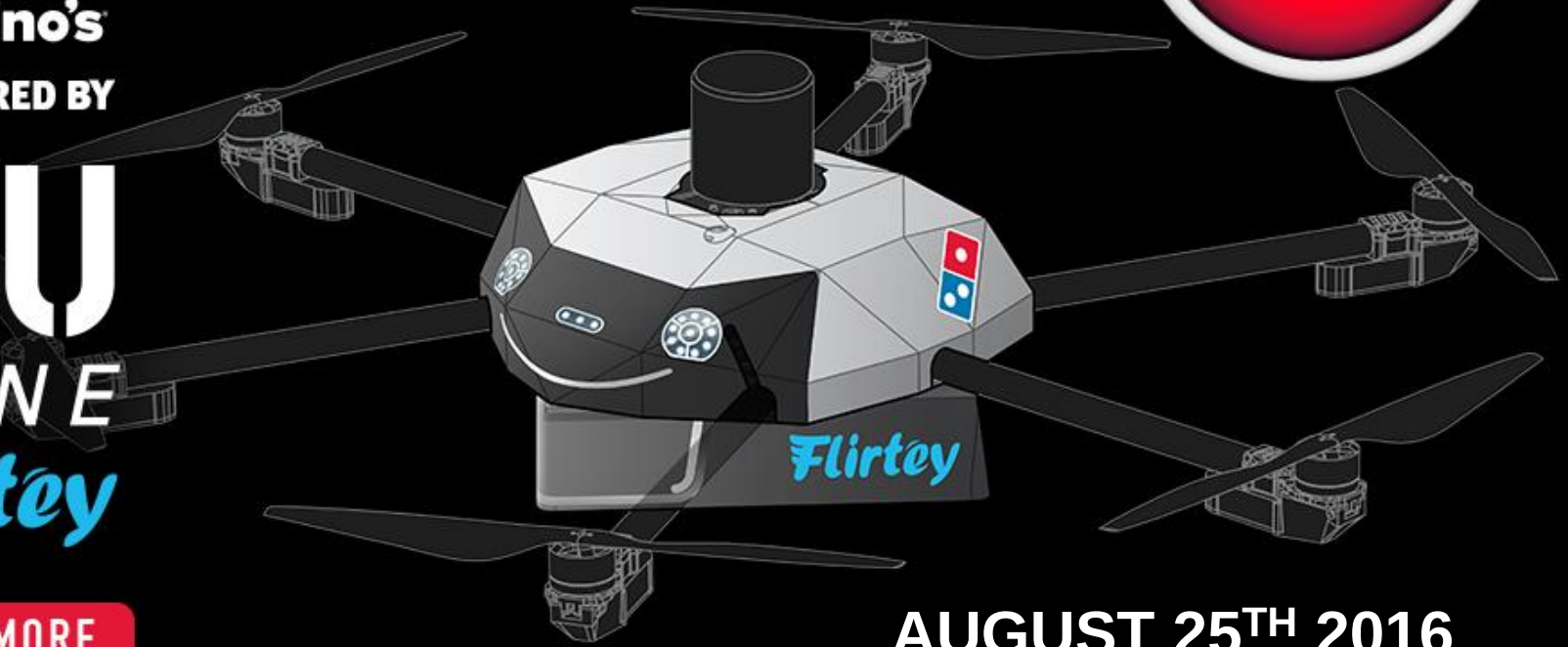
ORDER ONLINE

Domino's

NOW DELIVERED BY

DRU DRONE

BY Flirtey



FIND OUT MORE

AUGUST 25TH 2016

TURNING SCIENCE FICTION
INTO SCIENCE REALITY

The $10 million global competition to put healthcare in the palm of your hand.

QUALCOMM TRICORDER XPRIZE

LEARN MORE

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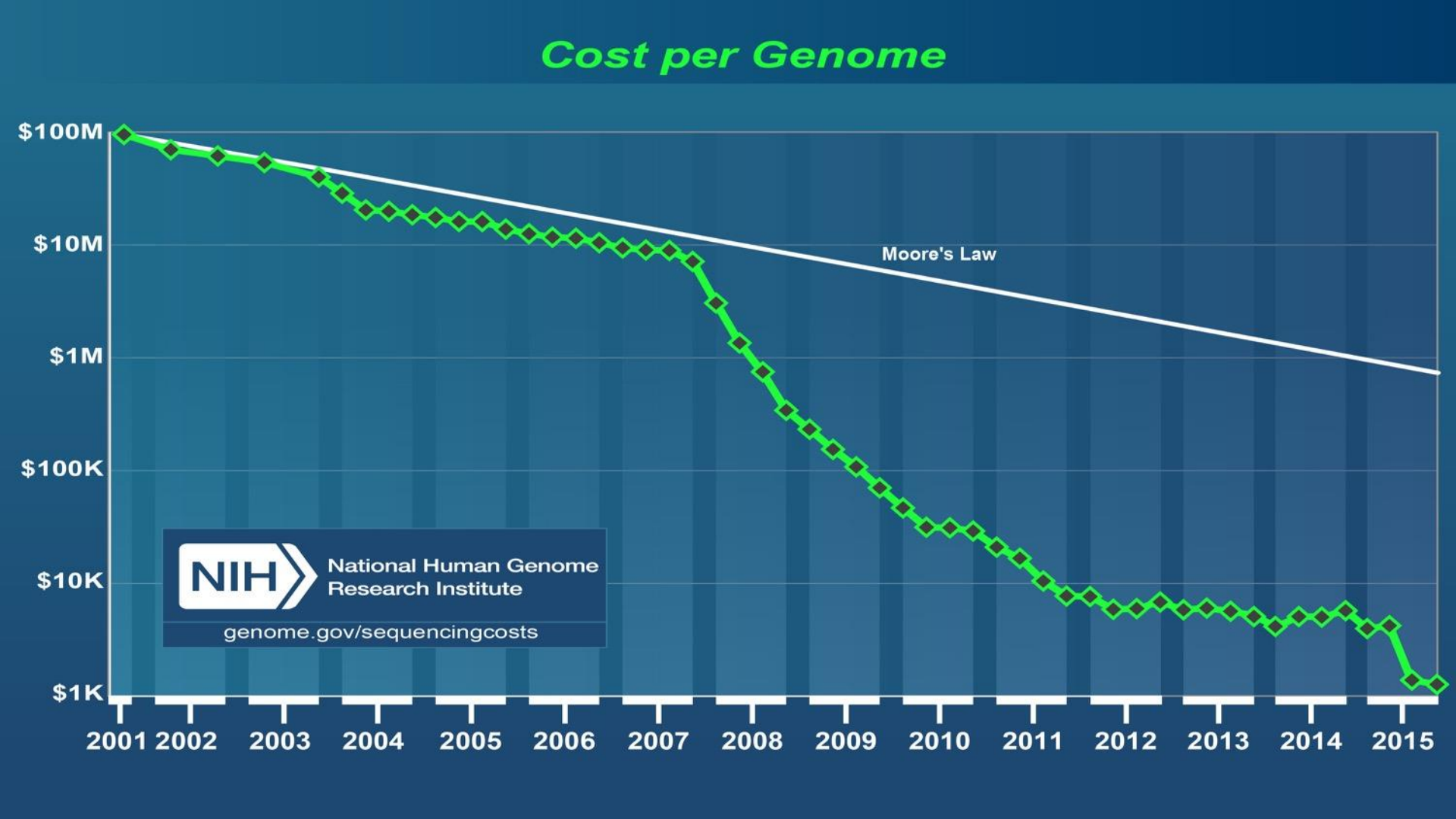
HEALTHCARE

3D PRINTING

Anthony Atala, Director of the Wake Forest Institute for Regenerative Medicine

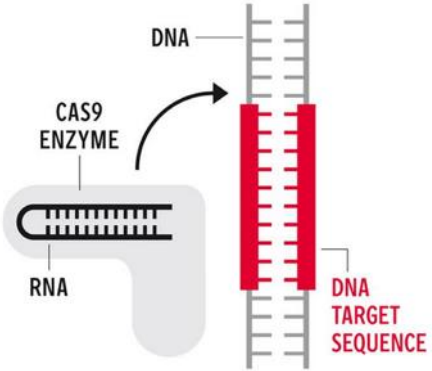
SYNTHETIC BIOLOGY


Cost per Genome
$100M
$10M
$1M
$100K
$10K
$1K
Moore's Law
NIH
National Human Genome Research Institute
genome.gov/sequencingcosts
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

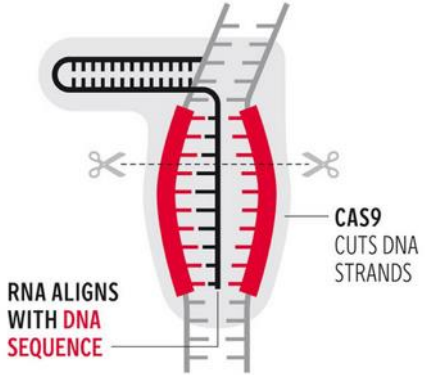
A BRAVE NEW WORLD OF GENOME EDITING

How the Crispr system derived from bacteria works on human cells to correct genetic defects

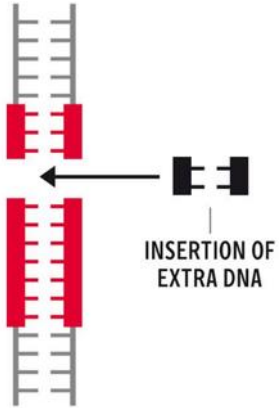
1
An RNA "guide" molecule can be **programmed to match any unique DNA sequence** found in the human genome



2
A special enzyme, called **CAS9, can be attached to the RNA guide**. Its job is to find the target sequence of DNA



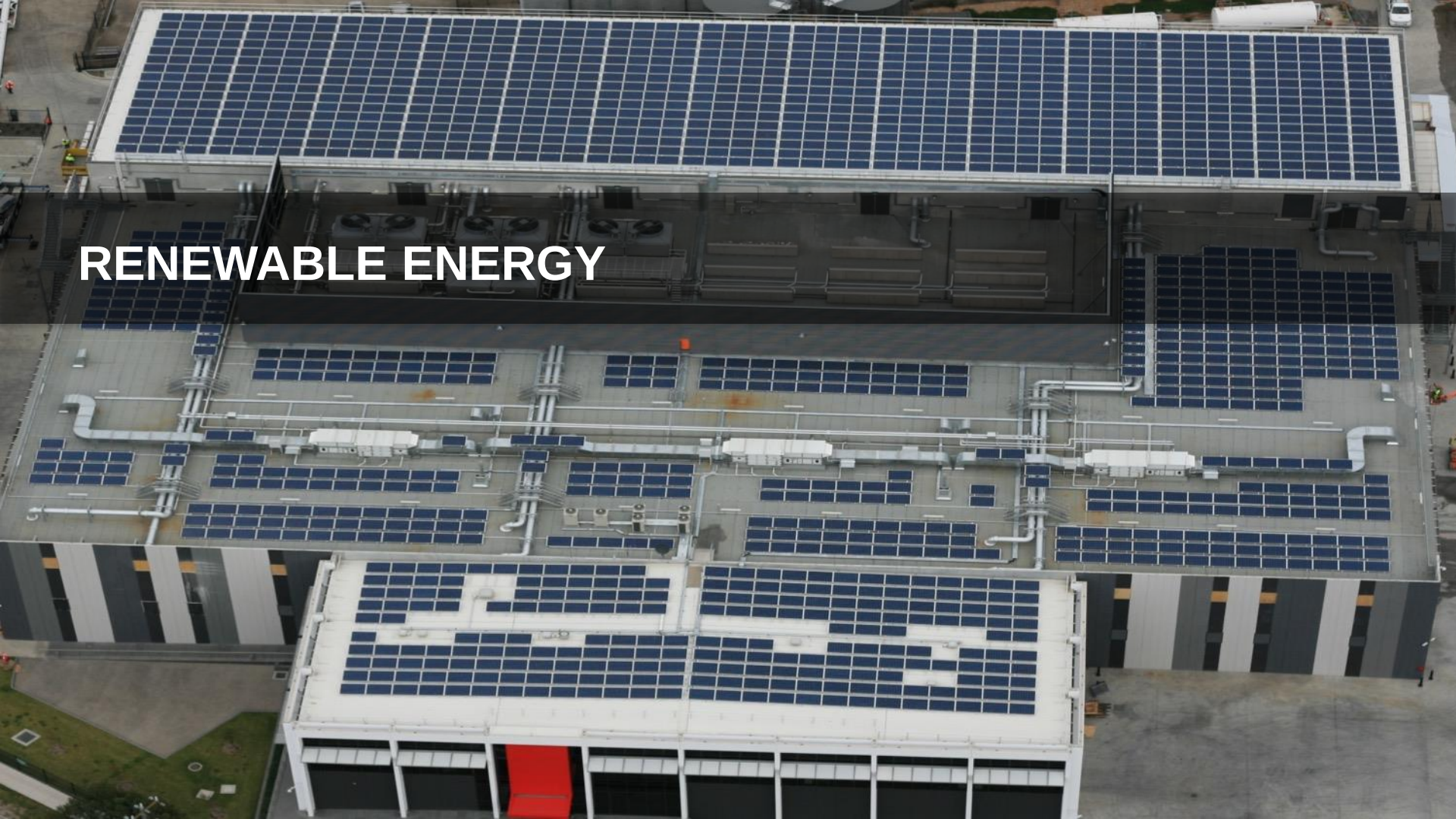
3
The RNA aligns with the target DNA sequence and the **CAS9 attaches and cuts both strands of the DNA double helix**



4
The DNA cuts can be **amended with an extra DNA insertion** (above), or a deletion of defective DNA

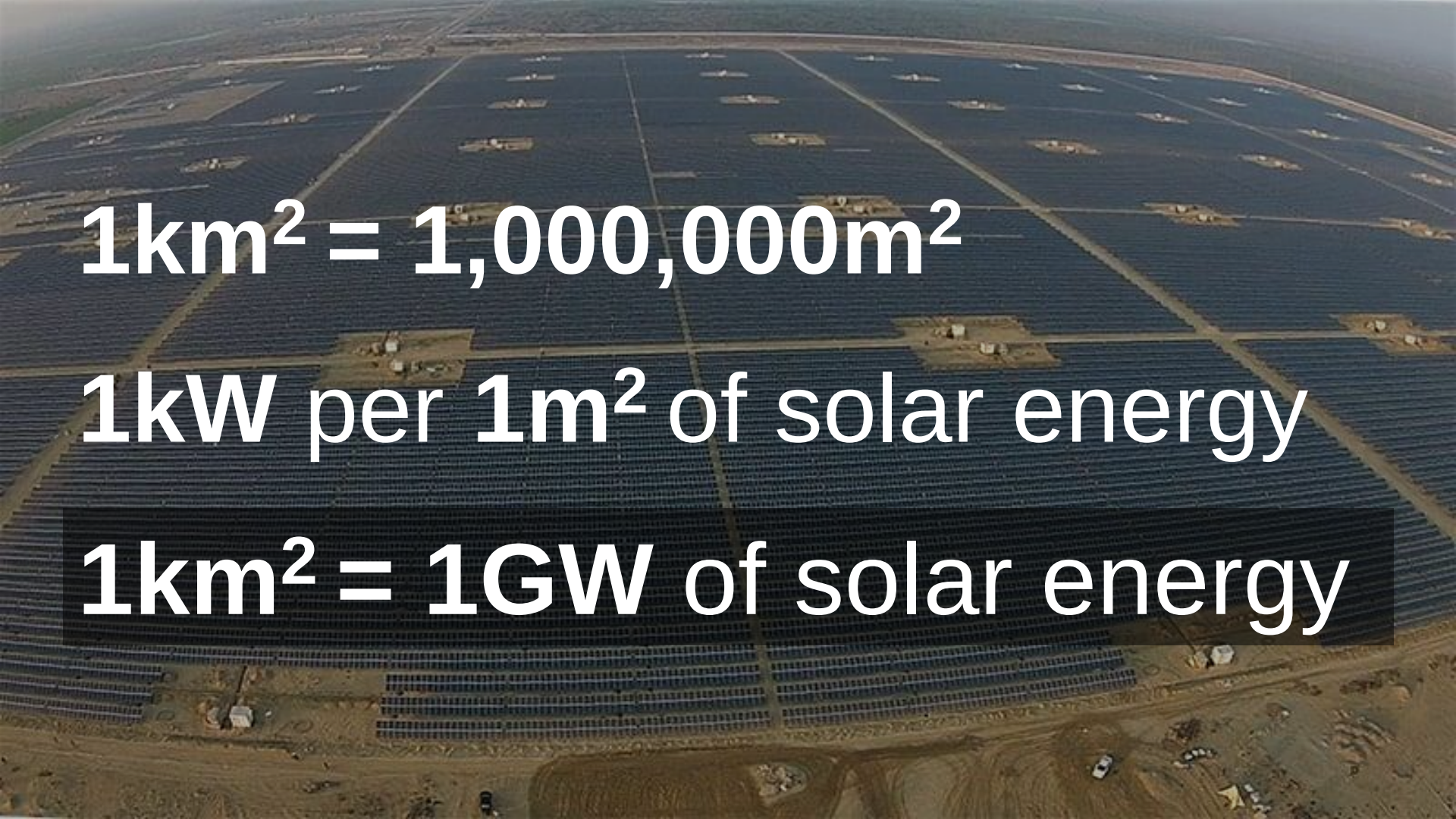
VIRTUAL REALITY

AUGMENTED REALITY



RENEWABLE ENERGY

How Cheap Can Solar Get?
2015: Solar is 1% of global electricity
When solar reaches 2% of 2015 global electricity demand
This is a future model of solar prices.
Assumes 16% cost reduction of new solar electricity per doubling of scale.
Solar costs unsubsidized.
Natural gas prices do not include carbon pollution externalities.
4%
8%
16%
32%
New Natural Gas Electricity Price
New Natural Gas Electricity Price
Average Solar - Medium Sunlight Locations
Lowest Cost Solar - Sunniest Locations
Graph by Ramez Naam
rameznaam.com/tag/solar/
2020?
2028?
2035?
5 Doublings, from 200GW in 2015 to 6,400 GW at a future point.
20 years? Difficult to Estimate.
Price of New Solar Electricity: $ / kwh
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
200
400
800
1600
3200
6400
Cumulative Worldwide GW of Solar Deployed


1km² = 1,000,000m²
1kW per 1m² of solar energy
1km² = 1GW of solar energy

PHOTOVOLTAIC BUILDING MATERIALS

TESLA
TESLA
TESLA
TESLA
TESLA

What does this mean for the data centre?

$2B

AUSTRALIAN DC SERVICES MARKET $2B BY 2021

"Cloud services providers are amongst the largest users of data centre facilities in the world and this is a catalyst for growth in the DC ecosystem, drawing enterprise customers, telcos and IT services firms."

Wonjae Shim, Research Analyst, ICT Practice Australia & New Zealand, Frost & Sullivan

By 2018

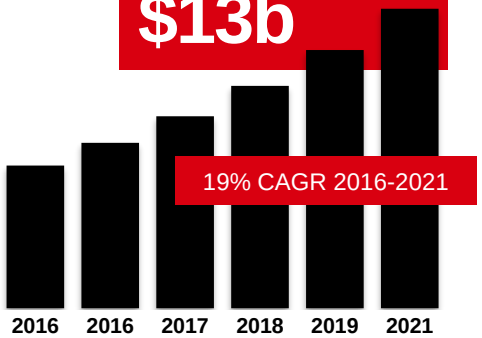
45% of enterprise ICT spend will be on colocation & public cloud data centres

IDC FutureScape: Worldwide Datacenter 2017 Predictions – APeJ Implications (Dec 2016)

By 2021

APAC colocation market revenue

$13b

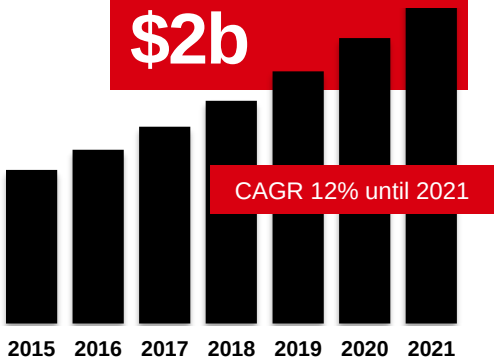


Research and Markets, Asia Pacific Colocation Market – Forecasts from 2016 to 2021

By 2021

Australian colocation data centre services revenue

$2b



Frost & Sullivan report: Australian Data Centre Services Market 2016

Daily data created by 2020:

Avg internet user	1.5GB
Autonomous vehicle	4TB
Connected airplane	5TB
Smart factory	1PB
Cloud video	750PB

Data centres are the key platform for the digital economy

In 2018

$1.7B

predicted to be spent on public cloud IT services in Australia, double the 2014 spend

IDC report, Australian Public IT Cloud Services 2014-2018

81%

of companies choose hybrid cloud deployments for flexibility and scalability

State of Hybrid Cloud 2015, IDG Connect

In 2019

40%

of all Australian enterprises will be using hybrid cloud

Telsyte Australian Infrastructure & Cloud Computing Market Study 2015

A platform …is simply a way of building something that is open, inclusive, and has a strategic focus. Think of the difference between a roadside store and a shopping centre. The mall has many advantages in size and scale and every store benefits from the marketing and promotion done by others. They share infrastructure and costs. The mall owner could have tried to have it all by building one big store, but it would have missed out on the opportunities to collect rent from everyone and benefit from the diverse crowds that the tenants attract."

Vivek Wadhwa, Fellow at Rock Center for Corporate Governance at Stanford University, director of research at Center for Entrepreneurship and Research Commercialization at Duke, and distinguished fellow at Singularity University.

IT'S WHAT MAKES THESE COMPANIES SO DISRUPTIVE

Microsoft

90,000

new customers sign on to Microsoft Azure every month

amazon web services™

33%

of internet users visit websites built on AWS every day

50,000

new Uber drivers sign up every month

Google

>2m

businesses are paying to use Google Work productivity suite

NETFLIX

36.5%

of North American downstream traffic in peak evening hours

airbnb

17m

people stayed with an Airbnb host over summer

YouTube

2.8m

videos are viewed every minute

facebook

6bn

Facebook pages are viewed every minute

THE PLATFORM GROWS INTO A UNIQUE ECOSYSTEM

Endless opportunities to connect with public and private cloud to deliver innovative services

nextdc.com

Increased business agility is rated as the most valued benefit of cloud computing

Harvard Business Review
"How the Cloud Looks from the Top"
https://hbr.org/resources/pdfs/tools/16700_HBR_Microsoft%20Report_LONG_webview.pdf

“

At the moment less than 0.5% of all data is ever analysed and used, just imagine the potential here.

https://www.technologyreview.com/s/514346/the-data-made-me-do-it/

VISION

Our vision is to help enterprises harness the digital age, improving our society through the advancement of technology

MISSION

Our mission is to be the leading customer-centric data centre services company, delivering solutions that power, secure and connect enterprise

STRATEGY

Lead the industry with development scale
Deliver extraordinary customer experience
Be the marketplace for the digital economy
Own enterprise migration to cloud and colo
Win with partners and alliances
Leadership through innovation
Living our values

HYPERSCALE

From 1kW quarter racks to 30kW/m^2 super compute platforms

ENGINEERED FOR RELIABILITY

Mission critical systems with UTI Tier III world class standards

MISSION CRITICAL

N+1 redundancy for mechanical and electrical infrastructure

EFFICIENT

NABERS 4.5 star certified energy efficiency

SECURE

Multi-layered defense provides security for highly sensitive data

ECOSYSTEM
We’ll help you find the right suppliers
for every project, every time.
CLOUD CENTRE

CUSTOMER EXPERIENCE

World class customer experience from digital to physical

HIGHLY CONNECTED

Unlimited connection possibilities enable hybrid cloud solutions

ELASTIC

Create secure, high-speed connections between your data centres, networks and clouds

AXONVX

REMOTE CONTROL

Keep tabs on your infrastructure with real-time intelligence

ONEDC

FUNDING EXPONENTIAL GROWTH

By 2020, our accumulated digital universe of data will grow from 4.4 zettabytes today to around 44 zettabytes or 44 *trillion* gigabytes.