# CREATING THE LIVING NETWORK™ TOGETHER.

## Investor Day 2018
## December 10, 2018
## NYU Wireless Lab – Brooklyn, NY

INTERDIGITAL®

# Forward-Looking Statements

This presentation contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, regarding InterDigital, Inc.'s current beliefs, plans and expectations, as to: (i) future results, projections and trends; (ii) its strategy and business plan; (iii) the company's future revenues and expenses, including its expectations with respect to full year and fourth quarter 2018 revenues and fourth quarter 2018 and first quarter 2019 operating expenses and capitalization costs; (iv) future recurring cost and recurring revenue levels and the timelines for achieving such levels; (v) investments; (vi) partnerships, commercial initiatives and other potential business and revenue opportunities, including through new markets; (vii) technology development timelines; (viii) future global mobile, IoT and consumer electronics device shipments and market opportunities, and; (ix) the company's plans to expand its footprint and engagement strategy. Such statements are subject to the safe harbor created by those sections.

Words such as "anticipate," "believe," "estimate," "expect," "project," "intend," "plan," "forecast," "will," variations of any such words or similar expressions, and graphical timelines representing future estimates or events are intended to identify such forward-looking statements. Forward-looking statements are subject to risks and uncertainties. Actual outcomes could differ materially from those expressed in or anticipated by such forward-looking statements due to a variety of factors, including, without limitation: (i) the market relevance of our technologies; (ii) changes in the needs, availability, pricing and features of competitive technologies as well as those of strategic partners or consumers; (iii) unanticipated technical or resource difficulties or delays related to further development of our technologies; (iv) the entry into additional patent license, patent sales or technology solutions agreements; (v) our ability to successfully identify and launch new commercial businesses; (vi) our ability to successfully identify and expand into new markets; (vii) our ability to enter into partnerships, strategic relationships or complementary investment opportunities on acceptable terms; (viii) the accuracy of market sales projections of the company's licensees, changes in our estimates of fourth quarter 2018 sales by our per-unit licensees, delays in payments from our licensees and related matters; (ix) amounts of royalties payable following routine audits, if any, and the timely receipt of such amounts during fourth quarter 2018; (x) the resolution of current legal proceedings, including any awards or judgments relating to such proceedings, additional legal proceedings, changes in the schedules or costs associated with legal proceedings or adverse rulings in such legal proceedings; (xi) unanticipated costs or expenses; (xii) changes in the company's strategy going forward; and (xiii) changes or inaccuracies in market projections or technology development timelines, as well as other risks and uncertainties, including those detailed in our Annual Report on Form 10-K for the year ended December 31, 2017, our 2018 Quarterly Reports on Form 10-Q, and from time to time in our other Securities and Exchange Commission filings. We undertake no duty to update publicly any forward-looking statement, whether as a result of new information, future events or otherwise, except as may be required by applicable law, regulation or other competent legal authority.

# CREATING THE LIVING NETWORK™ TOGETHER.

## Investor Day 2018

December 10, 2018

… a brief introduction and a few demos

INTERDIGITAL®

# InterDigital Labs

ID

**A world-class R&D lab that drives InterDigital's technology development and is a respected participant in international standards & industry activities**

5G

Video Coding

IoT

Consumer Electronics

## In Our Labs

- 5G & Beyond Cellular Standards
- Wi-Fi Standards
- IoT Standards & Platforms
- mmW Access and Transport Systems
- Spectrum Sharing & Unlicensed Spectrum
- Artificial Intelligence / Machine Learning
- Advanced Video Standards & Platforms
- Mobile Edge Computing
- Service-based Architectures
- Navigation and Localization
- Intelligent & Autonomous Vehicles
- Drones / UAVs / Robotics

# Edge Computing

5G promises ultra broadband connectivity and extremely low latency.

To achieve this without extreme network bottlenecks and huge network infrastructure **you simply need to be close to the users…**

…and running a service-based architecture on **low-cost IT-like hardware**.

High Quality Video Delivery

Real Time Analytics

Autonomous & Assisted Driving

Interactive Gaming

Industrial IoT

Bulk Device Maintenance & Upgrades

Virtual Reality

Real Time Control Systems

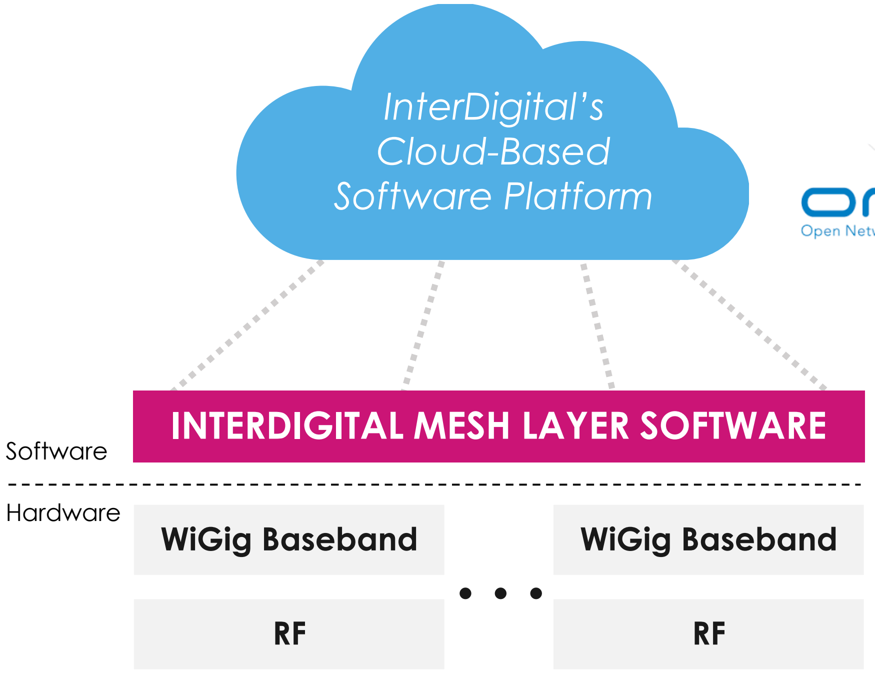
# EdgeLink™ – Millimeter Wave Mesh Networking

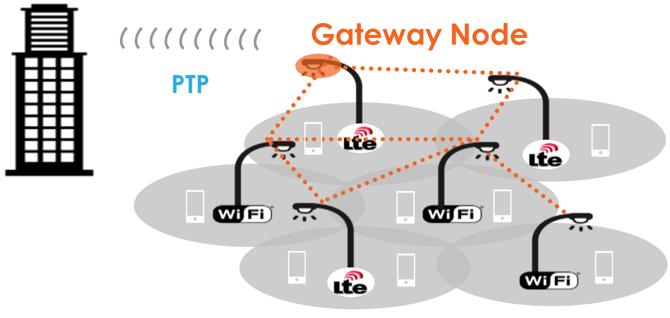
## SDN-based Multi-Hop Mesh Network Composed of Gigabit, Low-Latency Millimeter Wave Links

- 60GHz Spectrum with high-gain antennas
- Multi-tenant, multi-service level transport slice management
- Mesh topology for fault tolerance and availability

## Key System Components:

- Multi-Sector Mesh Node using WiGig physical layer
- Mesh Software Agent provides local node control
- Mesh Controller provides control and management function to mesh network to maintain Transport Slice Service Level requirements



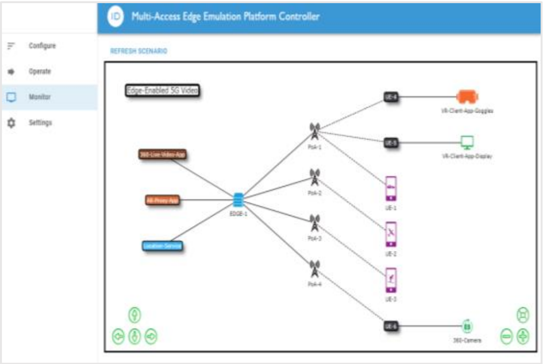



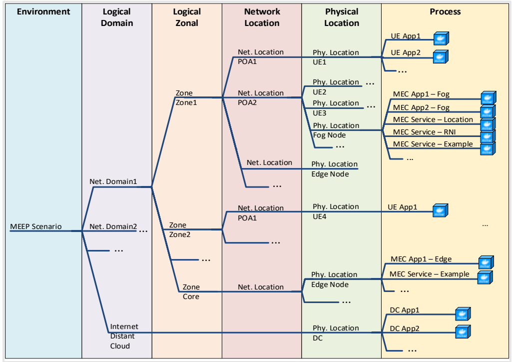
# 5G Edge – Mission Critical Automation Demonstration

## InterDigital AdvantEDGE™

*Mobile Edge Emulation Platform*

- Agile **experimentation and validation environment** for Edge applications and services
- Ideal platform for use by Edge application developers, system architects, and researchers




## InterDigital UTM System

*UAV (Drone) Traffic Management (UTM) deployed in AdvantEDGE™*

- A drone revolution has begun, and 5G Edge technology enables **safer, untethered, autonomous** operation
- Mobile Edge Computing with 5G Wireless is an ideal solution for mission critical applications, such as UTM and collision avoidance

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InterDigital®

# Agenda

- InterDigital Transformed – Bill Merritt
  - Broader Technology Platform
  - Large New Markets
  - Strengthened Management Team
  - Same DNA
- Driving Deals, Driving Value – Kai Öistämö
  - Innovation Excellence
  - Closer Customer Engagement
- Financial Discipline – Rich Brezski
  - Revenue Strength
  - Cost Discipline

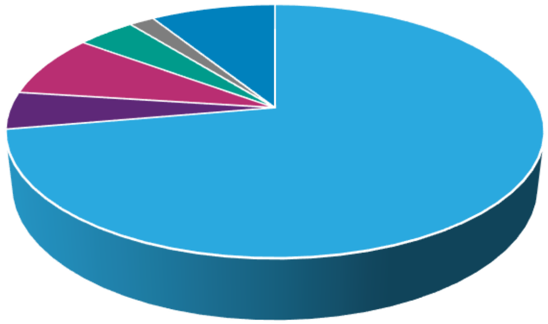
# Why InterDigital, *More than Ever*

## Invention, Collaboration & Contribution

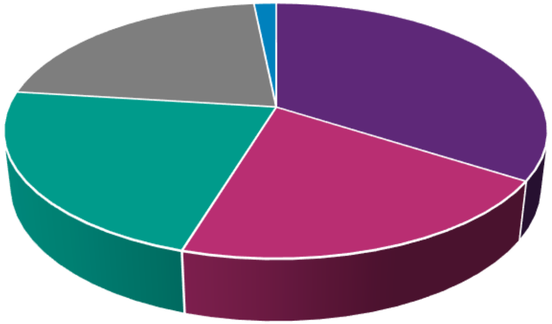
- Over four decades of pioneering wireless innovation
- Now combined with a portfolio reflecting decades of fundamental video expertise
- Brought to market through substantial contributions to global standards
- That drive a more powerful consumer experience
- With our contributions protected by one of largest patent portfolios in the world related to wireless and video technologies

# A Portfolio that Combines Depth and Breadth Across Technologies

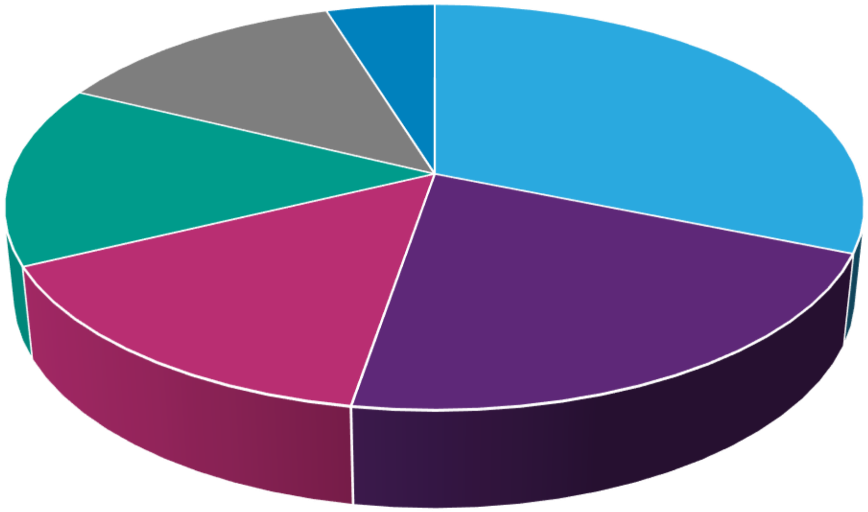
**IDCC**



**Acquired from TCH**



The InterDigital portfolio now brings together **>36,000 patent assets** that show enormous strength in key wireless and video technologies but also broad diversity across the entire gamut of technology needs.






Data as of 12/01/18

# Contributing Technology Worldwide on Two Major Fronts

## Deep wireless engagement…

**1,000+** contributions to 3GPP

**$1B+** invested in R&D since 2000

**~100** technical papers & presentations submitted to peer-reviewed conferences & publications in 2017 alone

In the last decade, our engineers attended hundreds of global industry conferences

## + a video portfolio that reflects:

**>50/yr** journal and conference papers published

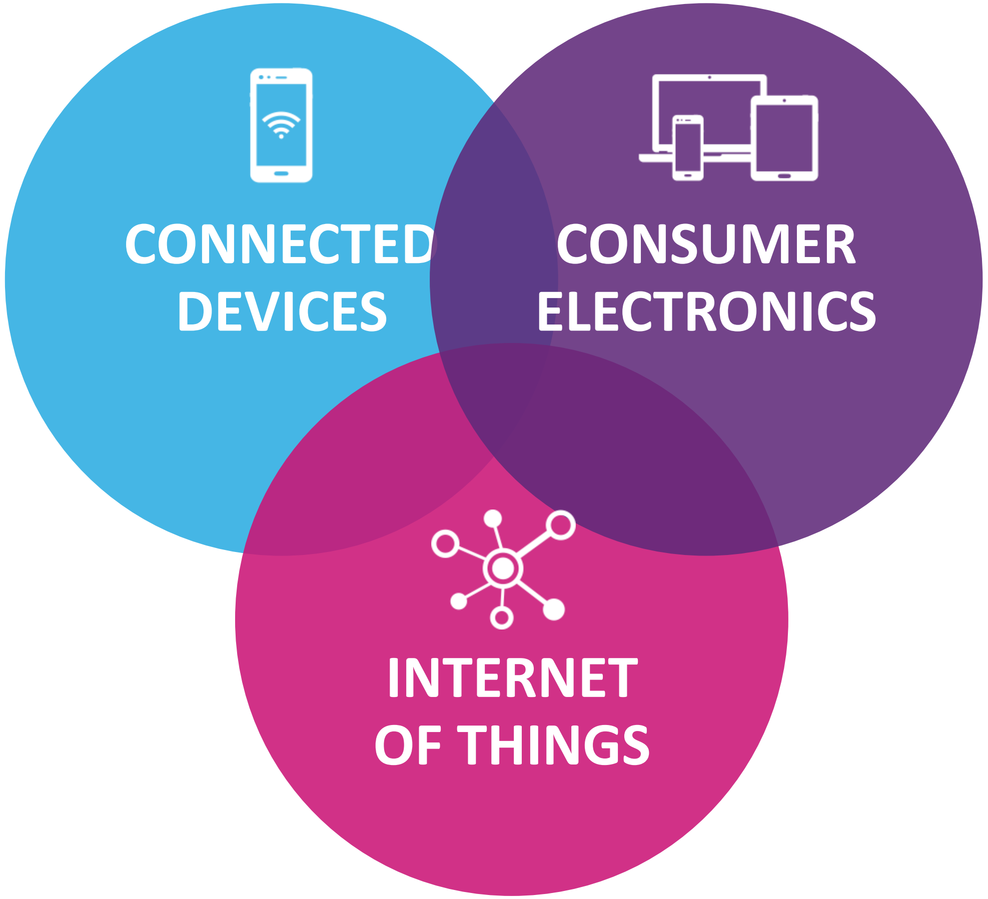
**>100/yr** contributions to standards bodies

**25+ years** of experience in video compression solutions

# 2018: A Global Footprint

- California
- New York
- Pennsylvania
- Montreal
- Berlin
- Brussels
- Delaware
- Maryland
- Washington, D.C.
- London
- Shanghai
- New Jersey
- Paris
- Indiana
- Rennes
- Seoul

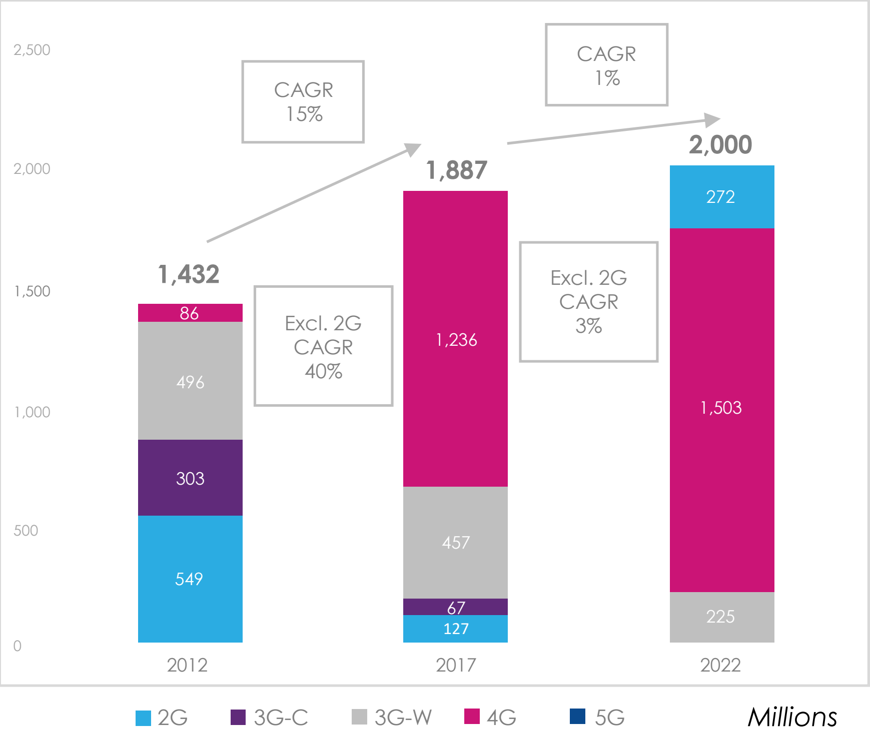
# Two Tech Footprints, Driving Three Interconnected Licensing Opportunities



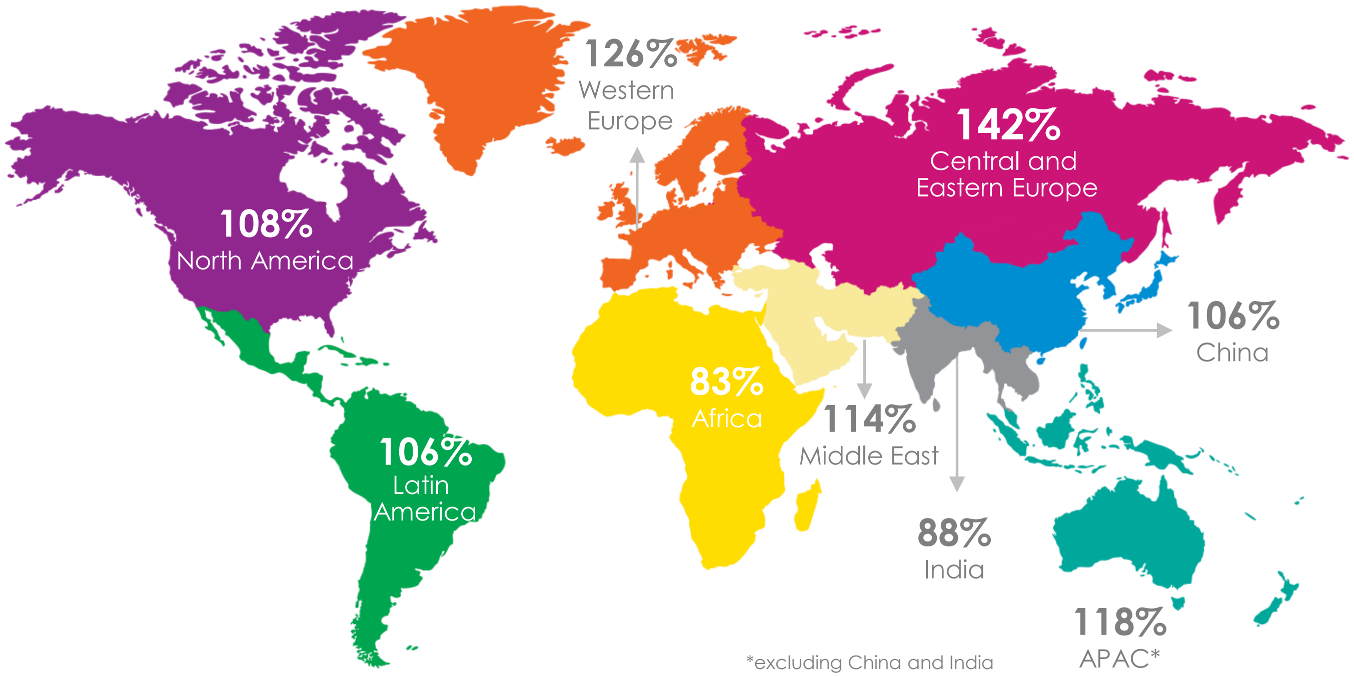
# Handset Shipments – Slowing Growth But at Significant Altitude

ID

## Worldwide Headset Shipments




## Subscription Penetration - Q1 18 (% of population)




Source: IHS (Q1 18) and Ericsson Mobility Report (Q2 18)

# Wearables and 5G Penetration Drive New Volume

| 1G | 2G | 3G-3.5G | 4G | 5G |
|---|---|---|---|---|
| 1980s | 1990s | 2000s | 2010s | 2020s |
| Analog Phone | Digital Phone With text messaging | Digital calls, messaging + data, 3.5 G with mobile broadband | All IP-based mobile broadband | |

Historically each generation of air interface technology has unlocked new user experiences on mobile. 5G will enable enhanced mobile broadband across multiple devices and platforms

**2018/19**
**Consumer CPE**
Fixed wireless access an early US use case based on operator activity

**Late 2019**
**Handsets/Tablets**
5G units are not expected to be incremental to 4G

**2019**
**IoT/M2M Modules**
NB-IoT modules lead to higher shipment forecast

**TBD**
**Automobile/ Telematics**
Anticipating standards definition; current focus on LTE roadmap

**TBD**
**Emerging Devices/ Wearables**
Wearables – incl. watches, AR glasses – will likely drive growth

*Source: ABI Research, IHS Markit*

# **5G** – More Opportunity than Previous Generations

“**Private 5G networks** could also create a huge market for technology companies that manage these networks or sell related devices… Harbor Research, a US-based research and consulting firm that specializes in IoT analysis, estimates that the market will grow approximately **30% a year through 2028**, when it will generate **$356 billion.**”

**- MIT Technology Review *(Nov. 28, 2018)***

“5G fixed broadband access is expected to enable robust services with a reliable capacity to meet the need of residential broadband users. 5G technology can support a theoretical speed up to 20 Gbps with latency [of] 1 ms, enabling operators to **provide superior broadband access without installing fiber-optic cables** to every single household.”

**- ABI Research analyst Khin Sandi Lynn *(Apr. 25, 2018)***

“We know that 5G will bring with it a massive increase in mobile network speed, capacity, and reliability. There will be many use cases for this, but VR and AR in particular are set to evolve to the next level… ABI Research estimates the total AR market will reach **$114 billion by 2021**, while the total VR market will reach **$65 billion** within the same timeframe.”

**- Jon Mundy, 5GUK**

# Consumer Electronics:
## With New Scale Comes New Opportunity

### Vision
- TV Displays and Computer Display Monitors
- Set Top Boxes, Media Adaptors, Streamers
- Game Consoles
- Consumer PCs

### Audio
- Wireless Speakers / Smart Assistants
- Soundbars
- Hi-Fi, AV Receivers, Loudspeakers
- Wireless headphones

### IoT / Other
- Wearable Devices
- Imaging
  - Cameras / Camcorders
  - Drones
- Smart Home

**~850M** Device Shipments **+** **~500M** Device Shipments **+** **~750M+** Device Shipments

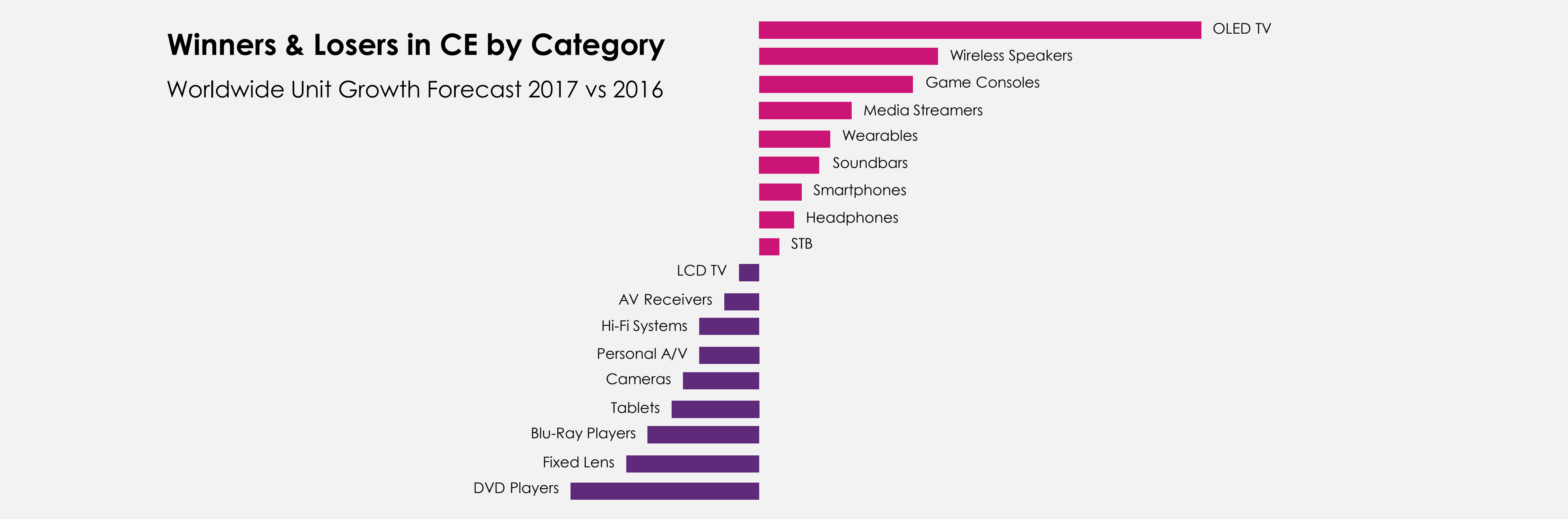
Markets totaling **$400B** with a history of licensing, that represent greenfield opportunities for InterDigital

*2017 shipment data: ABI Research – Device Forecasts; Futuresource Worldwide Consumer Electronics Update, October 2018*

# With License to Play Based on Position in Key Technologies

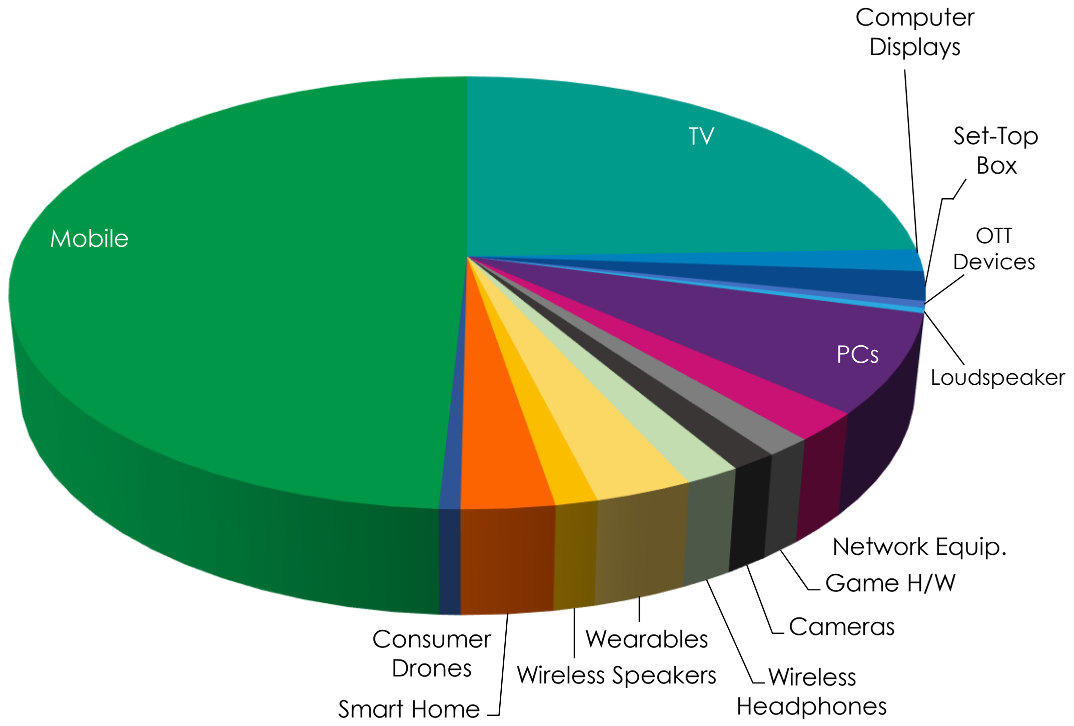
| | TVs | STBs | Gateway / Router | OTT Devices | Game Consoles | Cameras | Drones | Wearables | Smart Assistant | Smart Home |
|---|---|---|---|---|---|---|---|---|---|---|
| Cellular | | ✓ | ✓ | | | | ✓ | ✓ | | ✓ |
| WiFi | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Audio | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Video | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ |
| Display | ✓ | | | | | ✓ | | ✓ | ✓ | ✓ |
| Battery | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Speech | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| AI/ML | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Imaging | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

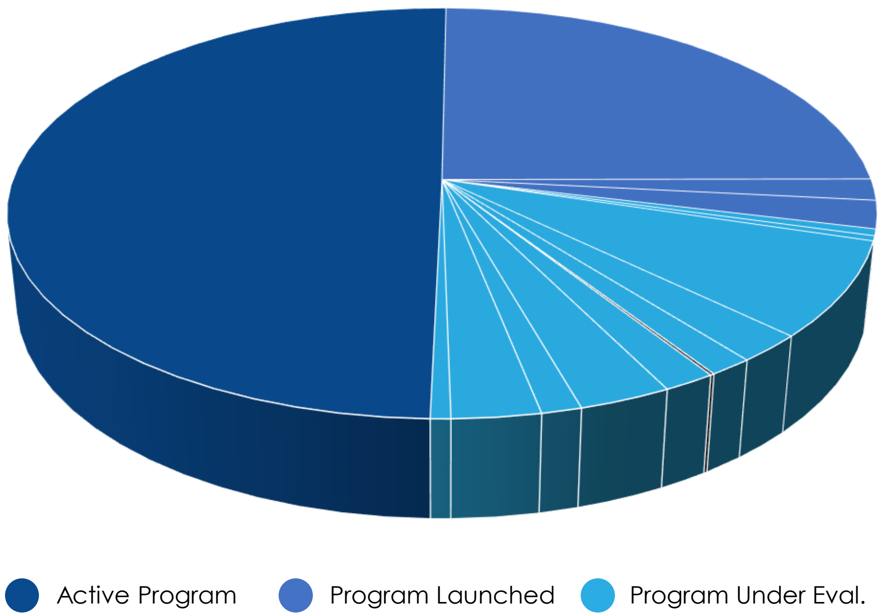
# Video and Wireless –
## the Keys to the Growing Segments of the CE Space




*Data: Futuresource Worldwide Consumer Electronics Update, October 2018*

# An ~$800B Market That We've Already Begun to License




Source: *Futuresource Worldwide Consumer Electronics Update, October 2018*

# IoT Connectivity – An Expanding Market

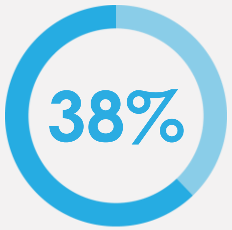
Despite slower-than-expected start, IoT market expected to reach installed base of **>62B devices by 2022…**

with cellular technologies topping **7B devices** including:

- **585M** connected cars, **22% CAGR** *(2017-2022)*
- **345M** retail/supply chain devices, **44% CAGR** *(2017-2022)*
- **26M** smart buildings, **34% CAGR**(2017-2022)
- **>100M** smart home devices, **31% CAGR** *(2017-2022)*
- **>300M** devices in utilities/industrial IoT, **27% CAGR** *(2017-2022)*

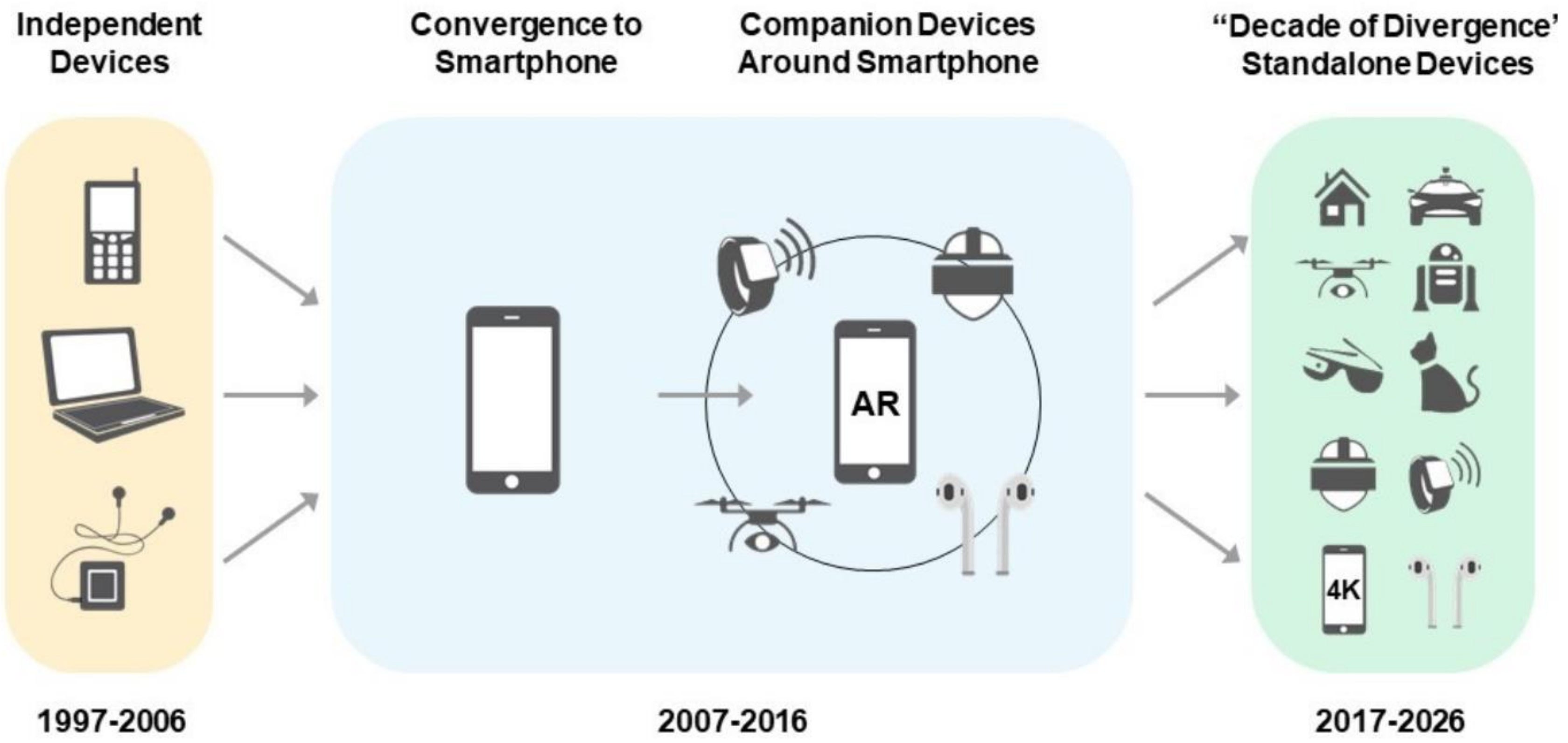
**2017** **2022**

Average
**2017-2022 CAGR**
of all cellular IoT markets outside mobile devices:




*Data: ABI Research Internet of Everything Market Tracker, Q3 2018*

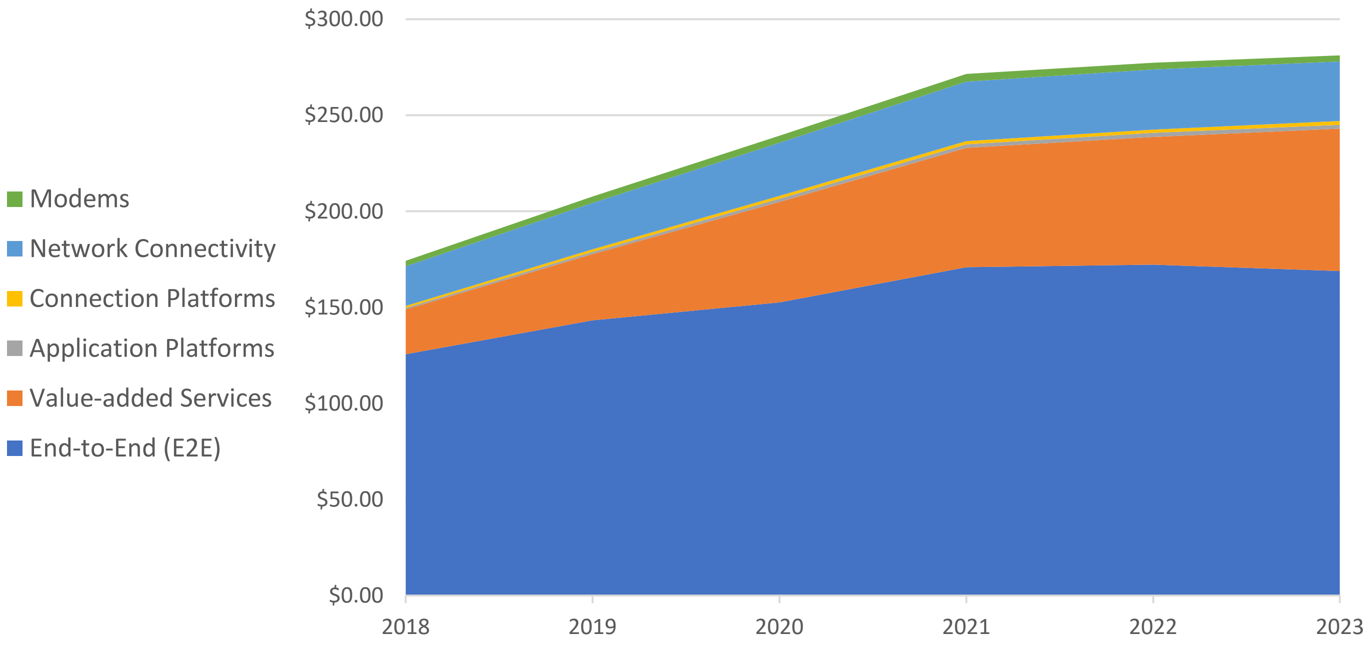
# The Rise of the Synchronized Device Landscape Extends Wireless Opportunity




*Source: Jefferson Wang, IBB Consulting, 9/18/17*

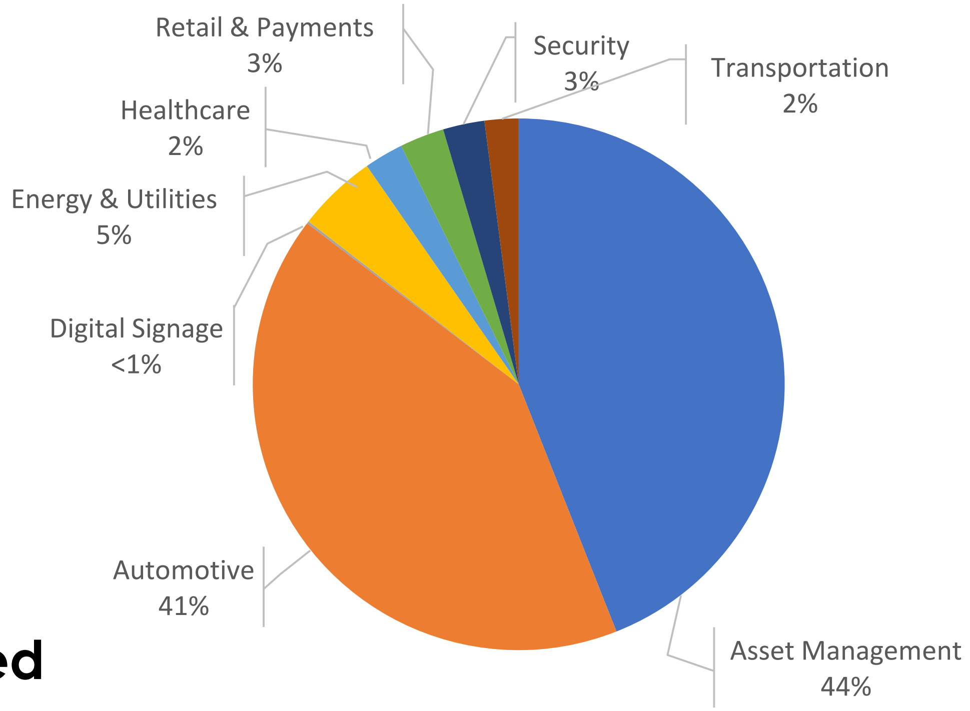
# Massive New Services Opportunity Breaks the Connectivity-Only Revenue Model

## Operator IoT TAM by Value Chain (B)




**10% CAGR, with 26% CAGR in Value-Added Services, to a $281.3B market in 2023**

## 2023 Operator IoT TAM by Vertical (B)




*Data: IHS Markit Cellular IoT Market Tracker, Q1 2018*

# Growth Drivers that Build Logically Over Several Years

Expected 2018 Revenue of **$302-308M***

*As of fourth quarter guidance press release issued Dec. 10, 2018

**LTE CYCLE + VIDEO**

**CONSUMER ELECTRONICS**

**IoT**

**5G**

Drive recurring annual revenue base to **$500M**

Build licensing base in **$400B** market

An installed base of **>62B** devices by 2022, of which **>10%** will be high-value devices using cellular, as well as IoT middleware

5G

**A new market paradigm**, that expands cellular wireless into a broad variety of areas and use cases

# A C-Suite and Board... Transformed

**Bill Merritt**
CEO

**Kai Öistämö**
COO
23-year career at Nokia, including leading Devices/Handsets business

**Eric Cohen**
Chief Development Off.
Former SVP of Corporate Development, Dolby Labs

**Dr. Henry Tirri**
CTO
Former CTO at Nokia, Harman

**Jeffrey Belk**
EVP, Bus. Dev.
Former SVP, Strategy at Qualcomm

**Rich Brezski**
CFO
Ex. PWC, 15 years at InterDigital

**Jannie Lau**
Chief Legal Off.
10 years at Inter-Digital, ex. IKON

**Tim Berghuis**
Chief Licensing Off.
30 yrs in wireless, ex-Motorola

**Nicole Kahny**
CHRO
Ex-AirGas,Viacom Lockheed Martin

**Jim Nolan**
EVP, Products
22 yrs at IDCC. Former head of Labs

**Dr. R. DiFazio**
VP, Labs
30+ yrs in mobile, IDCC since '01, ex-BAE

**Patrick Van de Wille**
CCO
30+ yrs in comms., former SVP, FTI Consulting

## ...and a Board of Tech and Industry Leaders

- **Doug Hutcheson**
  (ex. Leap Wireless)
- **Joan Gillman**
  (ex. Time Warner Cable)
- **John Kritzmacher**
  (John Wiley & Sons)
- **Jay Markley**
  (Director, Charter Communications)
- **Jean Rankin**
  (ex. LSI Corporation)
- **Phil Trahanas**
  (ex. General Atlantic, Morgan Stanley, GE)

# The Living Network™

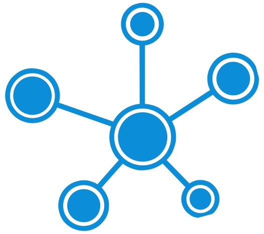
## Continuing to Guide R&D and Investments

### CONTENT

What type of data, for what purpose and with what security & quality requirements?

### CONTEXT

What is the situation and need, and how does that impact connectivity and content delivery?



### CONNECTIVITY

What network, devices and assets can be deployed to ensure a constant flow of meaningful data?

# Agenda

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  - Broader Technology Platform
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  - Same DNA
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  - Closer Customer Engagement
- Financial Discipline – Rich Brezski
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# Consistent Leadership in Major Cellular Standards

In studies by third-party analysts we're aware of since 2012 that have evaluated the share of patents and applications that are likely essential to **3G** and/or **4G** standards...

InterDigital appeared in the **top 3** among patent holders **more than 70%** of the time – tied for the **highest percentage** of any company

7% – 10%

InterDigital's share of likely LTE SEPs **ranges from 7% – 10%,**

and averages **more than 8%** across these studies,

8%

with InterDigital's LTE portfolio ranked between the **second and fifth strongest** in the industry.

10%

InterDigital's share of likely 3G SEPs **averages close to 10%,**

and our 3G SEP portfolio was ranked as either the **second or third strongest among all industry participants.**

*InterDigital did not fund any of these studies. InterDigital does not endorse any particular study or the methodology used by any of these studies, nor does InterDigital endorse a patent counting approach to determining the value of its portfolio and does not subscribe to the idea that all SEPs have an equal value.*

# …and Our Traditional Position of Strength in Wireless Continues

- One of the strongest portfolios in the industry, with >10,000 assets related to 3GPP cellular technologies alone
- 3G covers all major deployed standards including WCDMA high speed downlink and uplink packet access, HSPA(+)
- 4G covers all currently deployed standards including LTE and LTE-Advanced plus LTE-A Pro (future standards)
    - Dynamic scheduling
    - MIMO
    - Carrier Aggregation
    - LTE-U (unlicensed spectrum)
    - Vehicle to Vehicle communications
- 5G includes R15 (first release) for both NR (New Radio) and LTE and newer filings directed to R16
- WiFi  includes coverage of 802.11n, 802.11ac and future standards such as 802.11ax/ay

# A Recent History of 5G Innovation

**2014**
World's 1st WiGig-based mesh backhaul technology unveiled

**2016**
World's 1st long-term demo of integrated fronthaul/ backhaul

**2016**
World's 1st successful trial of IP-over-ICN-over-SDN demo

**2017**
Invited by GSMA to present on mainstage at MWC, alongside Intel and Ericsson

**2017**
World's 1st successful mobile edge computing 5G network architecture trial

**2018**
World's 1st demonstration of service-based 5G control plane

Demonstration of new service framework that will enable operators to move to a cloud-native deployment of mobile networks

wca 2018 FINALIST

CSI AWARDS 2018 WINNER

GLOTEL GLOBAL TELECOMS AWARDS 2018 HIGHLY COMMENDED

# TCH Portfolio Makes InterDigital Instant Player in Video

ID

Combined ~8,000 assets, with approximately 1/3 covering standards-based technologies

Covers various video standards technologies including:

- H.265 (High Efficiency Video Coding) and H.264
- Main profiles, Scalable (SHVC), Multi-view (MV-HEVC), 3D

- Digital TV (ATSC, DTV, DVB)
- Real-time video streaming
- Broadcast
- HDR (High Dynamic Range)

# Rapid Expansion of Avenues for Engagement with Customers

*Restructuring our approach, and expanding our footprint and engagement strategy where our customers are*

- All customer engagement – Labs, licensing, partnerships, etc. – now key area under new COO with customer-side experience
- Launch of business development and research office in Shanghai and planned expansion to Beijing
- Engaging with Chinese universities for sponsored research
- Engaging with sophisticated and growing Chinese IP community
- Sony: a model for licensing and research partnership

# Video Now Joins Wireless as an Avenue for Research Engagement

- Next-gen video coding
- H.266 and MPEG-Immersive, including Point cloud compression and Omnidirectional media format (OMAF), enabling user-directed video experiences
- Light fields and associated VR/AR/MR applications
- Image processing to preserve or enhance image quality
- Digital TV—streaming, communications & new user experiences
- High-dynamic range (HDR)
- State-of-the-art video platform development

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# Revenue Base Built on a Broad Range of Customer Relationships

Currently license

~50%

of all smartphones shipped worldwide

Including the

**TOP 3**

**VENDORS**

**~$660M**

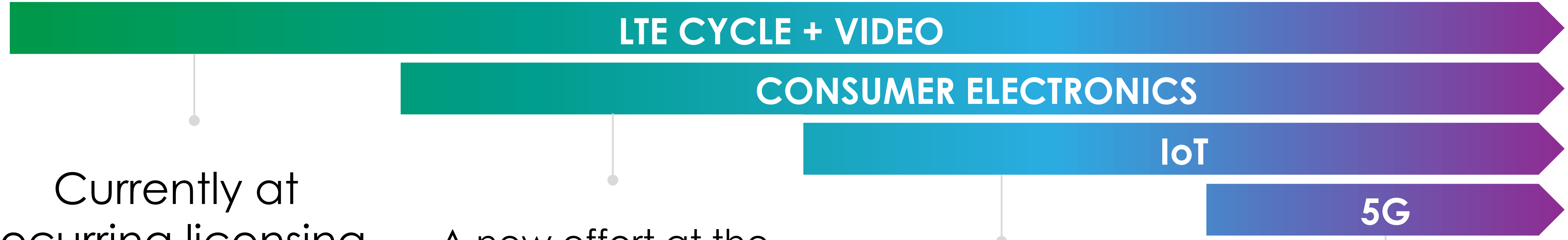
**OF CONTRACTED CASH RECEIPTS THROUGH 2022**

not including additional licenses or per-unit payments

~90%

**of the 60+ licenses** & amendments we've signed in the past 10 years were achieved through bilateral negotiation alone

# Diligent Goal-Tracking Across All Our Programs




Currently at recurring licensing revenue of >$300M, with a **continued goal of $5-600M**

A new effort at the company, but based on historical revenues of the sector we're optimistic for a rapid ramp

Stated goal of $75-100M by late 2021. Currently, initial wins and opportunities in a slow market but holding to goal

Growing ability to size the market, and expected impact on broad range of additional markets

# Post-Acquisition Recurring Costs

Our Q3 '18 recurring costs were **<$1 million** above our 2017 run rate.

**Q3** reflected only two months of the acquired Technicolor Patent Licensing Business

| | 2017 | Q3 '18 |
|---|---|---|
| Operating Expense | $ 231.4 | 62.2 |
| Capitalized Prosecution | 34.9 | 9.3 |
| Less Depreciation & Amortization | -56.8 | -17.5 |
| Less Litigation | -15.7 | -4.6 |
| | $193.8 | $49.4 |
| **Quarterly Run Rate** | **$48.5** | **$0.9** |

*millions*

ID

# The Transition

We expect to incur an additional **$5 - $10 million** of operating expenses and capitalized prosecution costs above Q3 levels in Q4 '18 and Q1 '19.

By **April 2019**, we expect to see our recurring cost levels begin to come back down, and we remain committed to returning to the 2017 level.

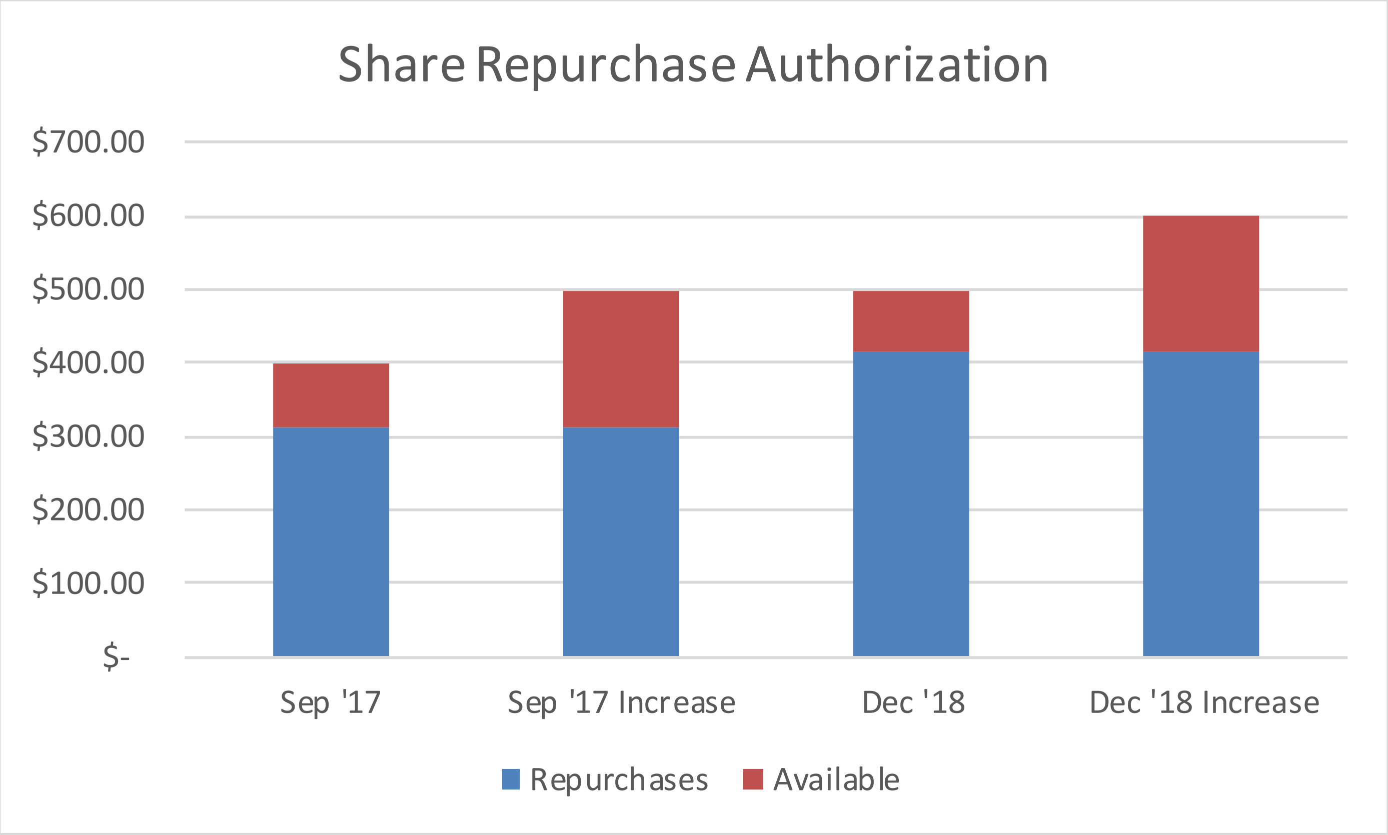
We currently expect to do so within the original timeline of no more than **18 months** post close, though exact timing is a little less certain.

# A Straightforward Path to Get There

- Portfolio pruning will result in a less expensive portfolio that is bigger than either, better than both
- Funding internal and external video research by redirecting research dollars that we already focused on non-wireless technologies
- Some redundancy in G&A
- Our partners will share some responsibility for our costs

# Continuing Our Practice of Returning Value to Shareholders

- Since July 1, 2018, we have invested approximately $80 million to repurchase more than one million shares
- We have announced another $100 million increase to the authorization increasing the available amount to $187 million



# CREATING THE LIVING NETWORK™ TOGETHER.

## Investor Day 2018
## December 10, 2018
## NYU Wireless Lab – Brooklyn, NY

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