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Power Forwards: NFC, Bluetooth®, and Wi-Fi® Team to Transform Mobile Connections and Content Sharing

Game on! It's time to assemble your best technology team if you want to hold the winner's cup for online content sharing and entertainment. With a global audience that's ever growing, no electronic or toy manufacturer wants to leave this competition to chance. To the victors go the spoils: a sizeable portion of the US\$1.1 trillion consumers spent on electronics and the US\$13.3 billion they dropped on online gaming last year. Both numbers are sure to soar into the stratosphere as internet users double the number of connected devices they own to five by the year 2017.

THE ULTIMATE REMOTE IS IN YOUR POCKET

Embedded in millions of smartphones everywhere, unassuming NFC technology has been content to play fullback to date. However, this close-range, low-power wireless technology is now storming the center, eager to help kick some serious field goals. To accomplish this aim – and advance to the finals -- NFC is teaming up with Bluetooth and Wi-Fi to form a technology trio of power forwards. Together, these three technologies will transform mobile content sharing and entertainment by providing seamless hand-offs, instant and always-on connectivity, and new ways to work and game.

So what's happened? First, NFC technology has gained critical mass. It's already embedded in several hundred million handsets but will soar to 1.6 billion by the year 2018. In users' hands, pockets, and purses, the smartphone has become the computing device of choice: mobile and full of rich functionality. It's not just a phone, mini-computer, and camera: It's also a portable TV and game controller.

NFC IS EVERYWHERE

Equally importantly, NFC technology provides instant connections to Bluetooth devices and Wi-Fi networks, making critical processes faster, easier, and better. Its favorite move is the push kick – a quick, short and highly accurate pass – to a teammate.

So how will your consumers use NFC technology and its technology teammates? In our white paper, *Smart and Perfect Together: NFC, Bluetooth, and Wi-Fi Make Mobile Connections and Content Sharing Easy and Convenient*, we introduce you to the fictional Velocious family -- parents Gig and Zetta, toddler Buzzy, preteen twins Flash and Dash, and teenager Tweet and her friend Bitly -- who are using NFC technology to power and

streamline their lives on an ordinary Saturday in November 2017. In just one day, they'll use NFC technology to:

- Share and print photos by touching three tagged devices together
- Help their toddler learn English language skills with a mash-up of physical and virtual learning devices
- Check the energy consumption and maintenance needs of home appliances
- Transfer video to a home TV via an NFC-powered device and Bluetooth controller
- Listen to an audio book in a borrowed car with an NFC sticker, smartphone, and car's audio system
- Share a home Wi-Fi network with a friend
- Use a fitness tracker to streamline data capture and monitor daily activity and health information
- Enjoy music by tapping a Bluetooth headset to a smartphone to connect the two devices
- Download mobile games to the home TV and play them with Bluetooth game controllers

ON THE GO WITH THE ALWAYS CONNECTED FAMILY

Does this scenario look like your life? Like your customers' lives? If it isn't, it will be -- soon. NFC stickers and inlays are appearing in home electronics such as TVs, routers, printers, and cameras; are embedded in smart wristbands, watches, and hands-free devices; and are carried for perpetual on-the-go Wi-Fi access. NFC technology is so useful that it's even being placed in refrigerators and washing machines to provide vital information about appliance performance, while streamlining key functions and maintenance. With five devices apiece, a family like the six-member Velocious household could easily possess up to 30 intelligent devices, all talking together via NFC, Bluetooth, and Wi-Fi connections.



Consumers will use NFC technology to:

- **Enable rapid, seamless pairing:** Simply tap NFC and Bluetooth enabled devices together to connect them. There is no manual set-up, no interference from other devices, and an almost instantaneous connection. NFC tags can quickly turn over their signal to Bluetooth devices to enable longer wireless connections of 30 to 100 feet, depending on the device power.
- **Access Wi-Fi networks in public and private locations:** Instantly access a Wi-Fi network by tapping a laptop, tablet, or smartphone to an NFC sticker or the router itself, if the tag is embedded inside. Users can carry and share the routers on their devices with friends or access trusted networks easily. Retailers and vendors benefit, since they know the Wi-Fi service is localized to their location and can't be bootlegged by offsite users.
- **Switch on devices:** The latest generation of NFC tags can even switch on Bluetooth devices and Wi-Fi networks by harvesting their power, making it that much easier to access media and content. NFC inlays can be placed close to the device surface, apart from other circuit board electronics, saving more space for these parts.
- **Transfer content:** Tap NFC-enabled devices together to share content with a friend or use NFC-powered remote controllers to move media to a TV for group consumption.
- **Authenticate products:** With their unique ID numbers, NFC tags provide the same product identification capabilities as other RFID tags, while pulling double duty as Bluetooth and Wi-Fi access enablers.

Manufacturers can use NFC tags to authenticate goods, reducing counterfeiting and increasing consumer confidence in their product purchases.

- **Provide instructions:** Instead of printing costly user manuals, electronics and games manufacturers can leverage the same NFC tags they're using for Bluetooth and Wi-Fi pairing to link consumers to graphic instructions and videos on their corporate website.

With its seamless connectivity and exceptional functionality, it's clear that NFC technology is here to stay as a power forward. Make sure NFC has a critical role in your wireless strategy, as you design electronics, online games, and intelligent toys for today's technology-discerning – and consuming – buyers.

Game on, indeed.

Read our white paper, *Smart and Perfect Together*, and learn why NFC technology is sure to be a fan favorite with online content sharing and gaming. Access the paper at <http://www.nfctags.com/nfc-tags-downloads/nfc-bt-pairing>.

For more information, visit [SMARTRAC at smartrac-group.com](http://smartrac-group.com).

Statistics cited in this article came from the Consumer Electronics Association, as reported by Yahoo; NewZoo, as reported by Forbes; Cisco, as reported by BusinessInsider; and NFC World.