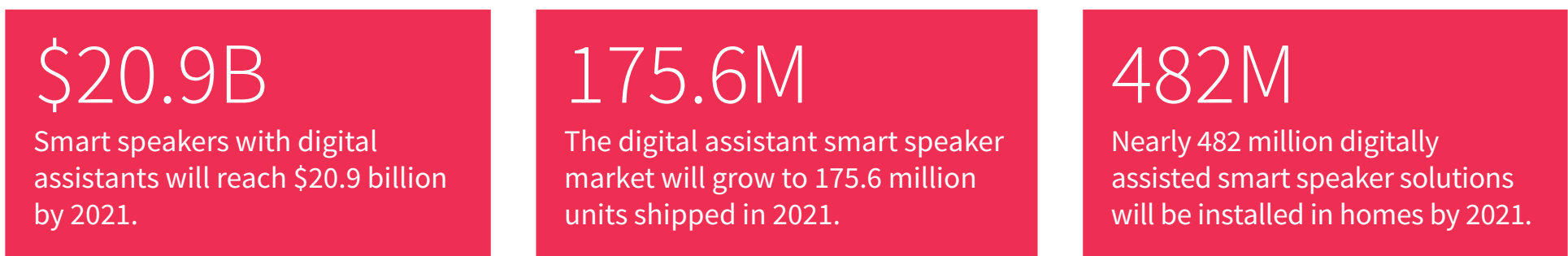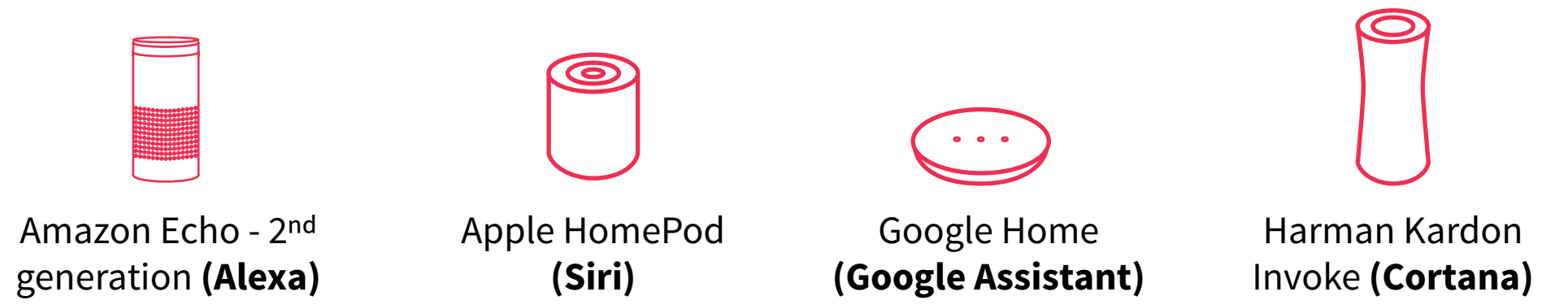# IHS Markit®

Smart Speaker Benchmarking

Which platform delivers the best real-world performance?

With digital assistants becoming an integral part of daily connected life, the smart speaker market is exploding.

IHS Markit research estimates:

$20.9B Smart speakers with digital assistants will reach $20.9 billion by 2021.	**175.6M** The digital assistant smart speaker market will grow to 175.6 million units shipped in 2021.	**482M** Nearly 482 million digitally assisted smart speaker solutions will be installed in homes by 2021.

To see who delivers the best experience under real-world conditions, RootMetrics benchmarked performance of the four major smart speaker platforms.
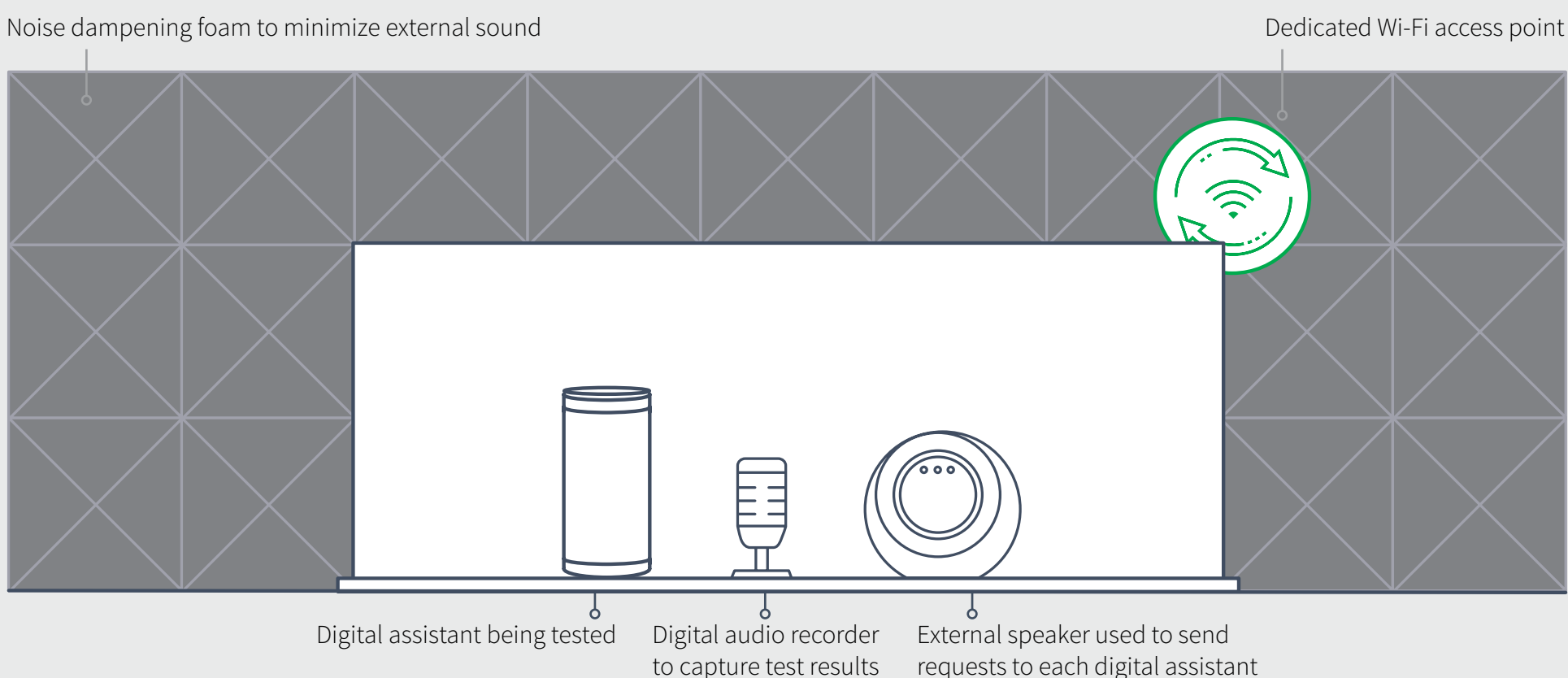
Amazon Echo - 2nd generation **(Alexa)**

Apple HomePod **(Siri)**

Google Home **(Google Assistant)**

Harman Kardon Invoke **(Cortana)**

Accurate | Scientific | Thorough

A better way to test smart speaker performance

To assure accuracy of results, we tested performance in a controlled lab setting. And to assure consistency of voice, inflection, and cadence during testing, we used Google Cloud Text-to-Speech to give commands.
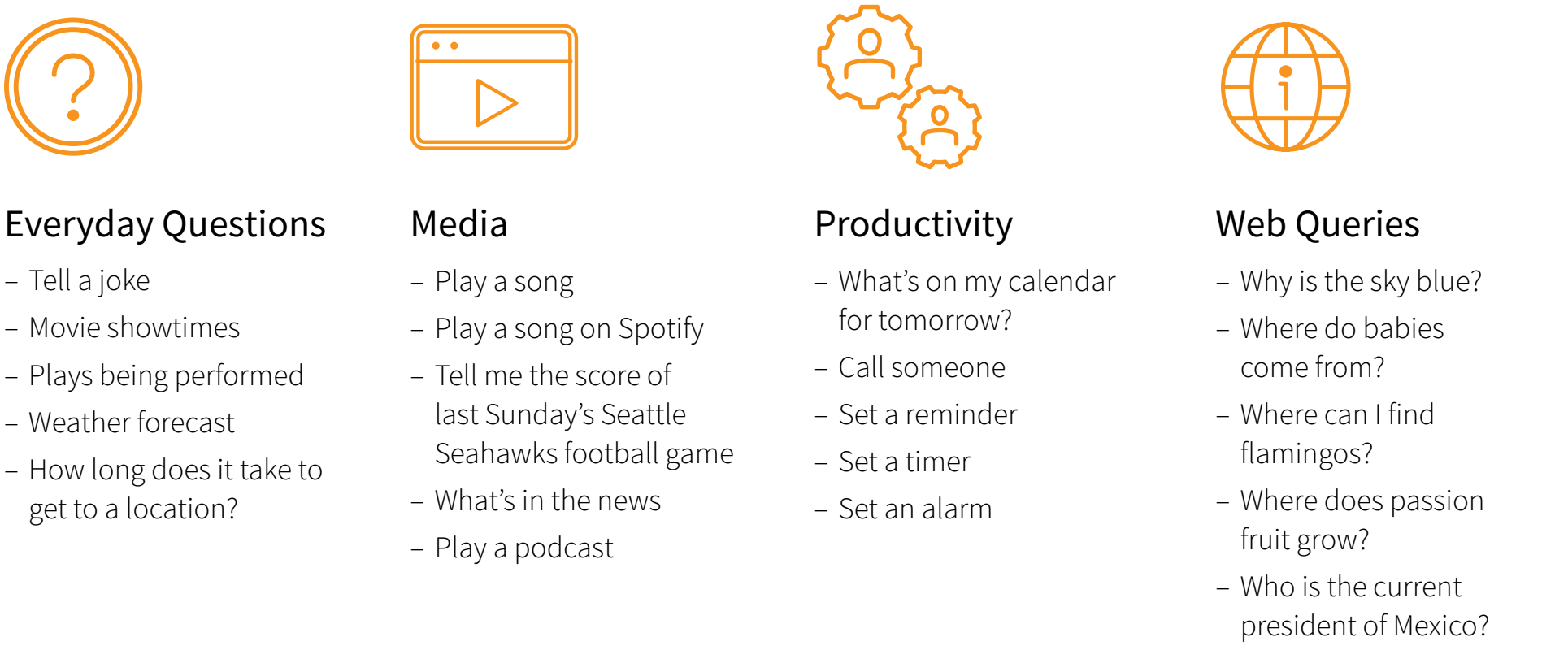
– Scientific, objective testing and results

– Wireshark capture of internet traffic from Wi-Fi access point

– Testing completed at multiple days and times

– 400 data points analyzed

Noise dampening foam to minimize external sound

Dedicated Wi-Fi access point

Digital assistant being tested

Digital audio recorder to capture test results

External speaker used to send requests to each digital assistant

Voice commands and test categories

Our smart speaker testing focused on the usage scenarios that consumers care most about: everyday questions, media, productivity, and web queries.

Within each category, five voice commands were given and the responses scored.

Everyday Questions
– Tell a joke
– Movie showtimes
– Plays being performed
– Weather forecast
– How long does it take to get to a location?

Media
– Play a song
– Play a song on Spotify
– Tell me the score of last Sunday's Seattle Seahawks football game
– What's in the news
– Play a podcast

Productivity
– What's on my calendar for tomorrow?
– Call someone
– Set a reminder
– Set a timer
– Set an alarm

Web Queries
– Why is the sky blue?
– Where do babies come from?
– Where can I find flamingos?
– Where does passion fruit grow?
– Who is the current president of Mexico?

Evaluating performance

Each platform was evaluated on how reliably it completed a request, how accurate the response was, and how quickly the action was completed.

Reliability

Accuracy

Speed

High-level performance results:

Our results suggest that it remains a tight race between digital assistant platforms, with productivity requests often handled better than other tasks.

Best Performance Category	Amazon Echo - 2nd generation (Alexa)	Apple HomePod (Siri)	Google Home (Google Assistant)	Harman Kardon Invoke (Cortana)
	Productivity	Media and Productivity	Productivity	Web Queries