



How big is networked audio?



We don't know !

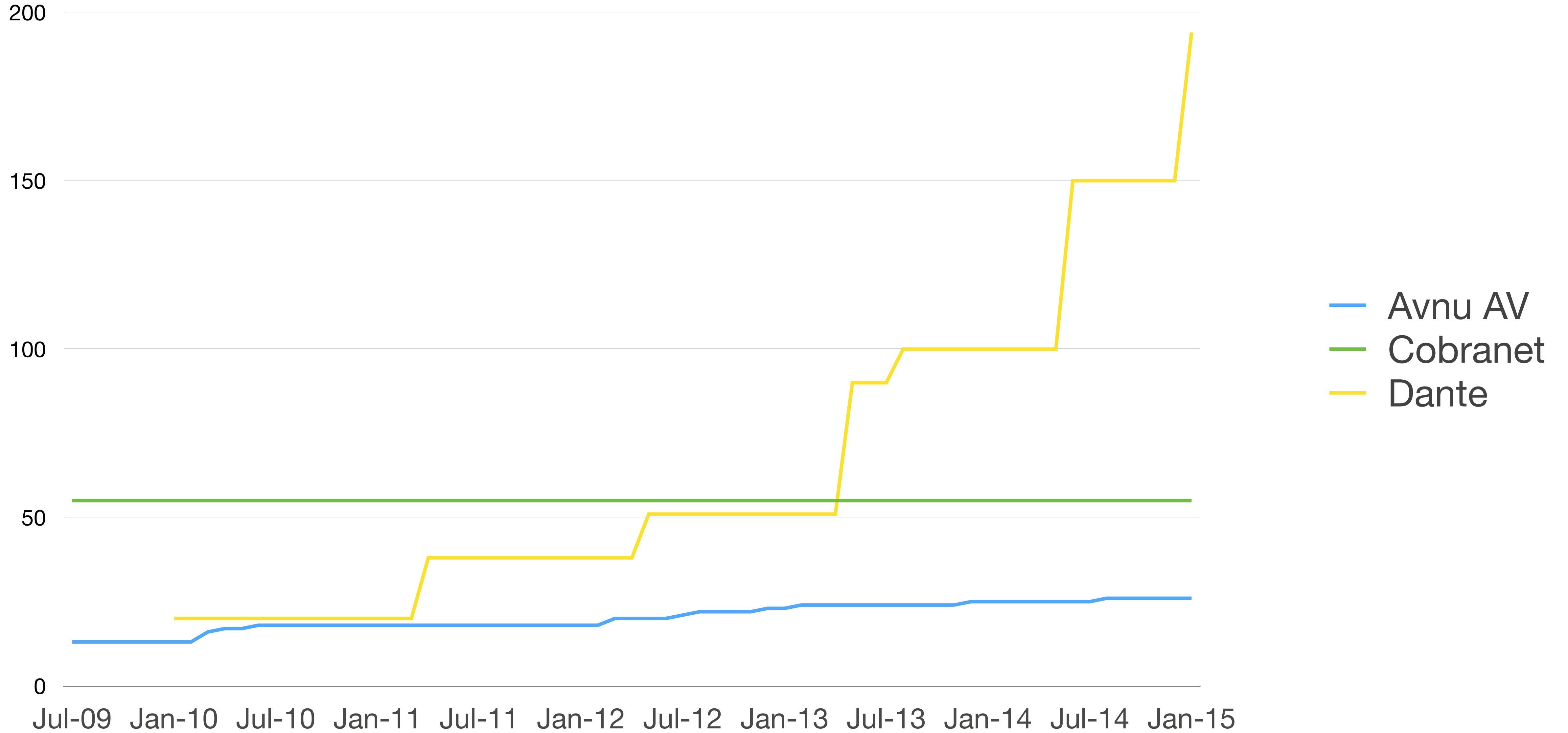
Nobody knows !

Actually now we know a little!

What don't we know

- Product sales volume
- Product sales price
- Product sale profit
- Where most products are used
- Was it a networked application?
- Success of the project

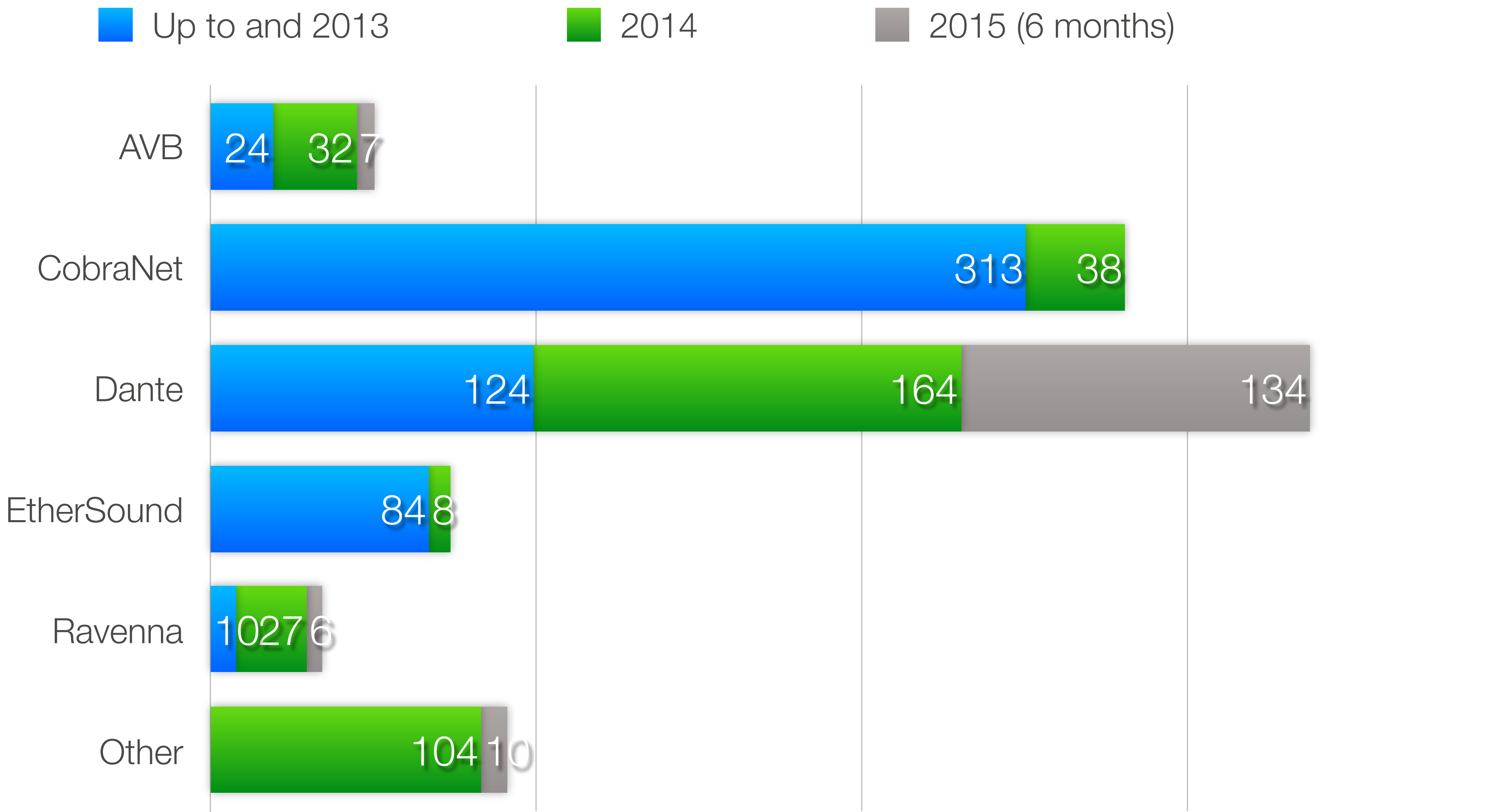
Licensees



Our research

- From an end-user point of view

Available networked audio products



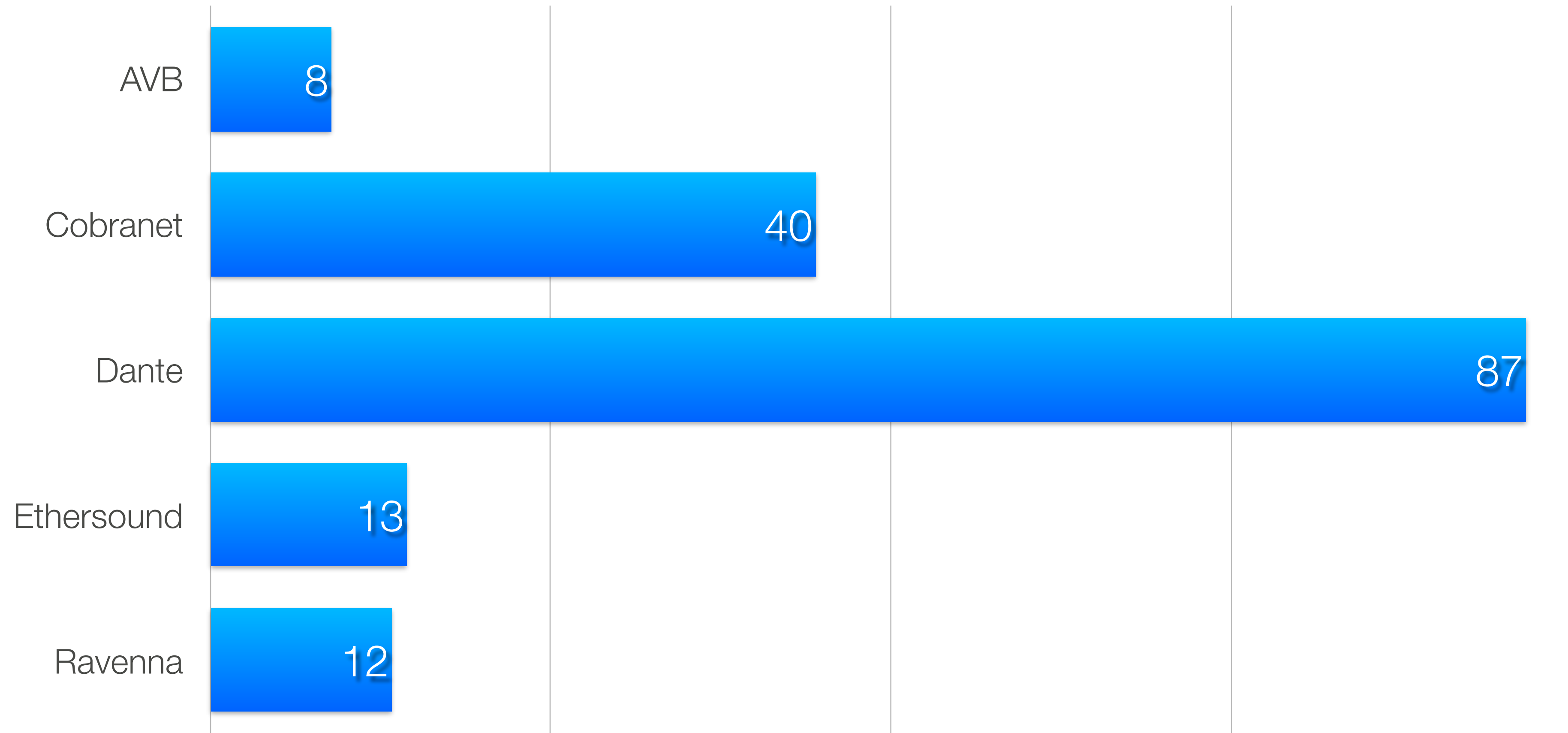
Caveats

- It's a small data set
- One product line skews data significantly
- Do we know enough about discontinued products?
- Sales volume, profit, actual use?
- Is it *really* shipping?

Interfaces, Transport and software

- Interfaces are product enablers
- Software is one product but unlimited applications
- Transport category will eventually decline

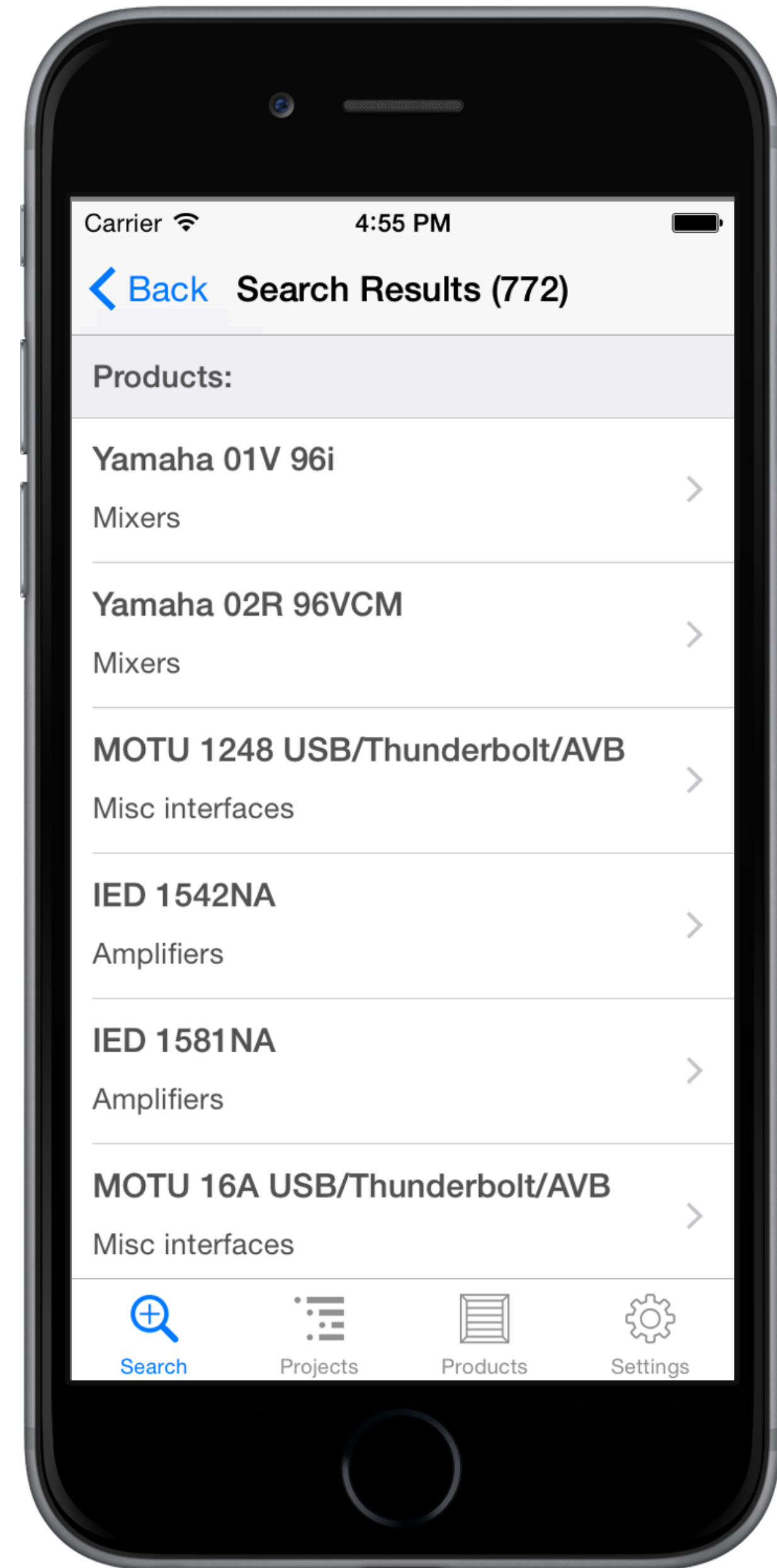
Manufacturers activity



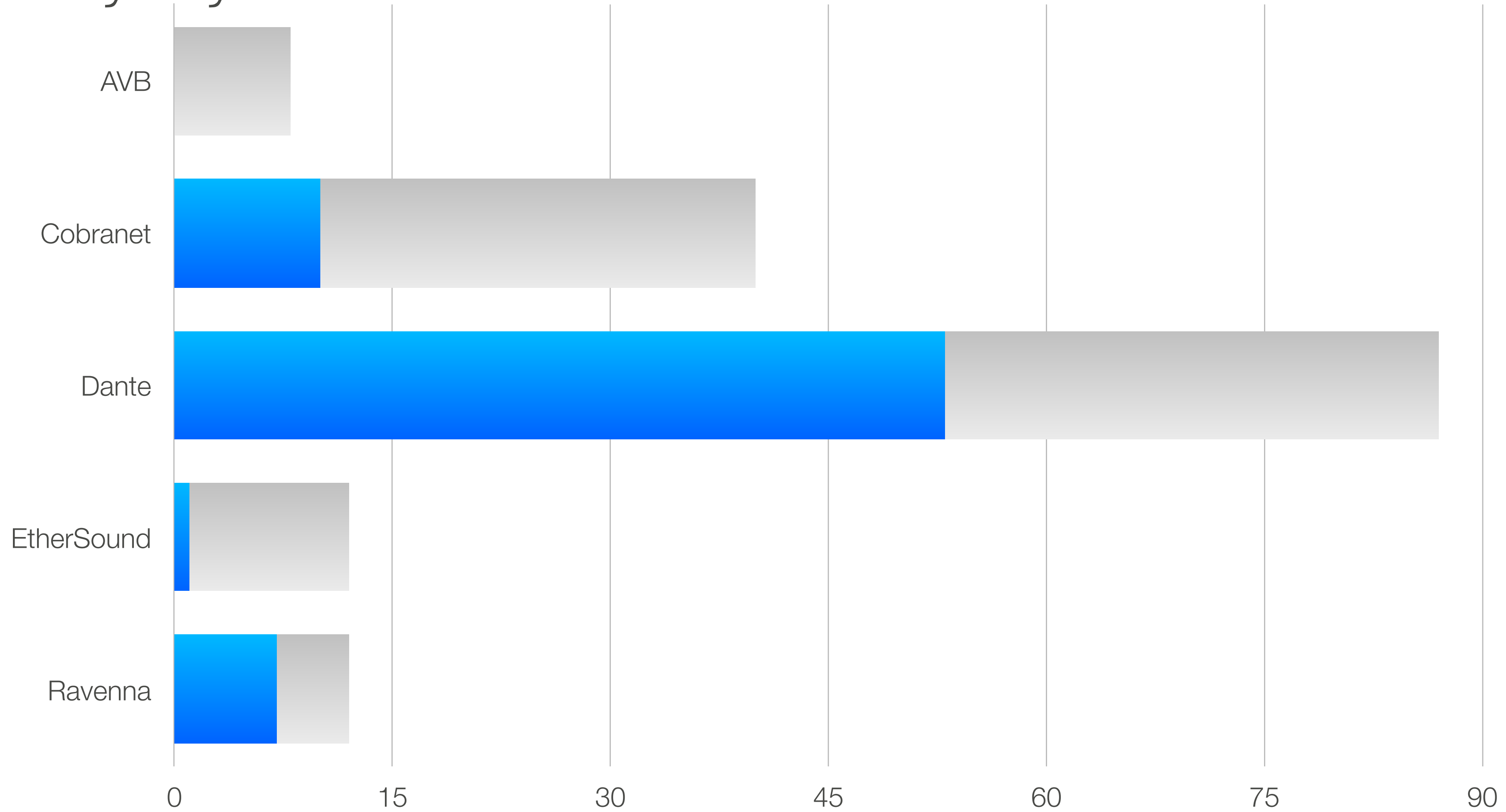
How many manufacturers shipping for each protocol?



Networked Audio Devices App



Protocol Loyalty



Number of manufacturers only adopting one protocol

AES67

- Currently 49 products
- 471 if you include Dante products
- 55% of all networked audio products could be AES67

AES67 Growth

Positives

Dante

Ravenna

Q-Lan

Livewire

Layer-3

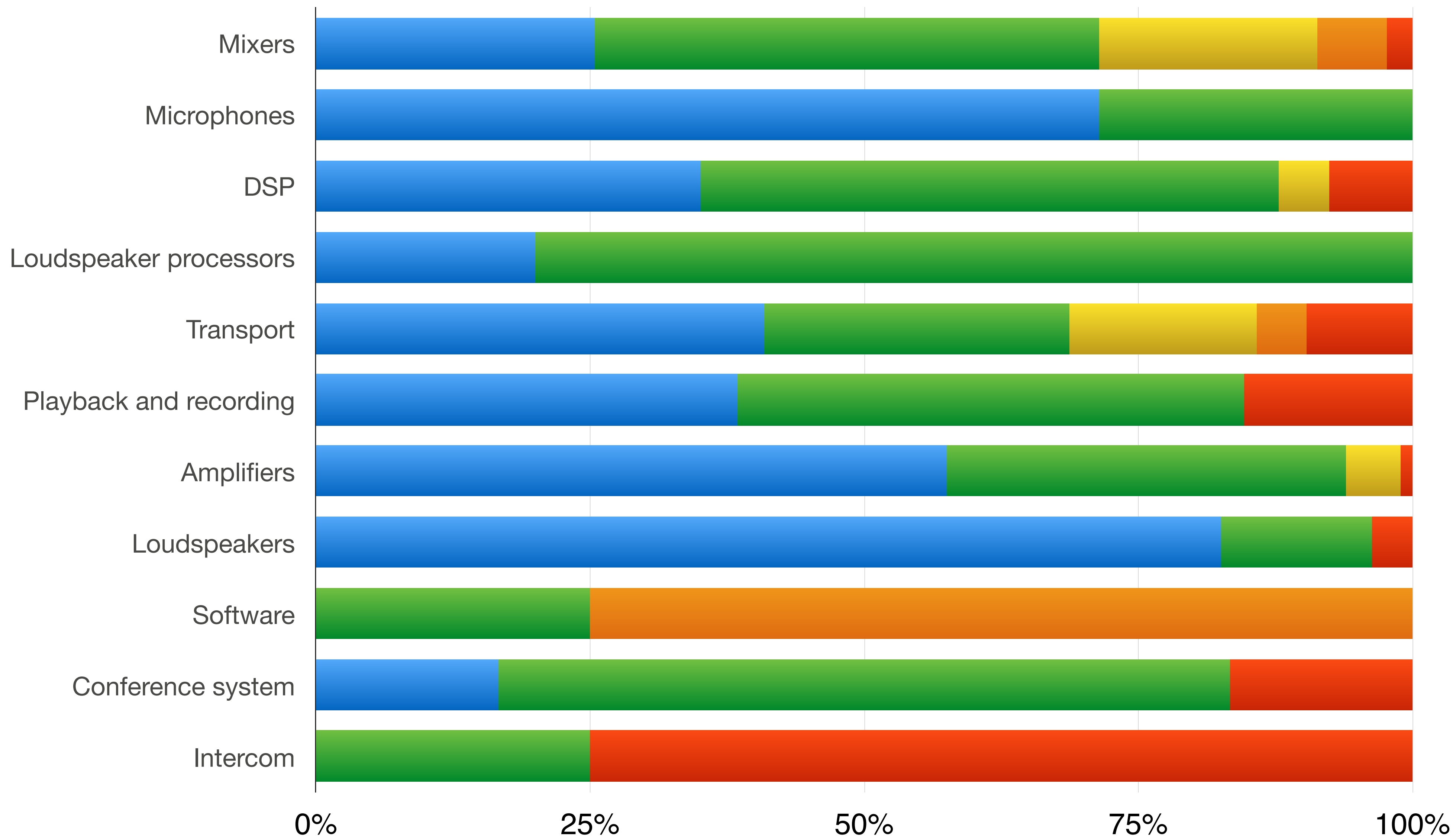
Negatives

Cobranet

AVB

Layer-2

■ Cobranet ■ Dante ■ Ethersound ■ Ravenna ■ AVB



A tiny proportion of projects

- Too difficult to do
- Lack of true interoperability between products
- Still a pro-audio niche

End-Points

- Until everything is networked, getting signal on and off the network is the key
- Build networking into microphones
- Setting up 'dumb' products is tricky

End-Points

- Get it into non-pro-audio products
- RAVENNA and Dante software democratise networked audio

White paper on audio networking

- Released 17th February 2015

What is the networking business?

- It can be tracked like any other new business
- New technology has both invention and a new business model
- Networking technology is a product that needs development and support

Protocols are not standards

- Protocols are products
- Protocols are ecosystems
- Protocols should not be standards
- Protocols should use standards as building blocks to allow interoperability

Types of standard

- De facto - private companies
- De jure - committees and consortia



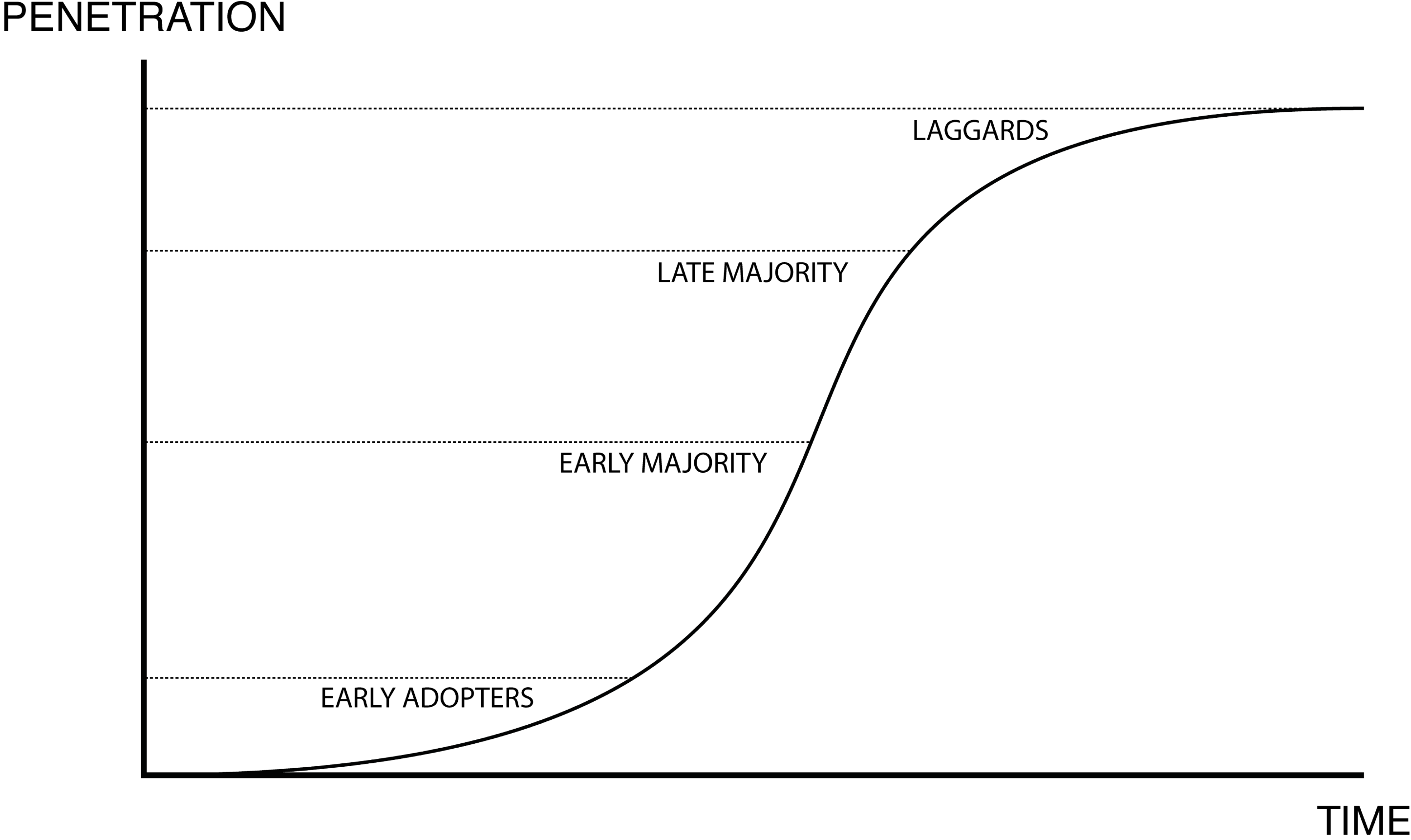
Product Support

- Difference between AVnu and Dante
- Learn, adapt, develop
- AVnu requires interoperability testing
- Dante carry out bug fixes

Product development

Product	Year
Dante Legacy Module	2008
Dante Virtual Soundcard	2009
Dante Brooklyn	2010
Dante Brooklyn II	2011
Dante PCI-e card	2011
Dante Ultimo 2x2	2013
Dante HC	2014
Dante Ultimo 4x4	2014
Dante Via	2015

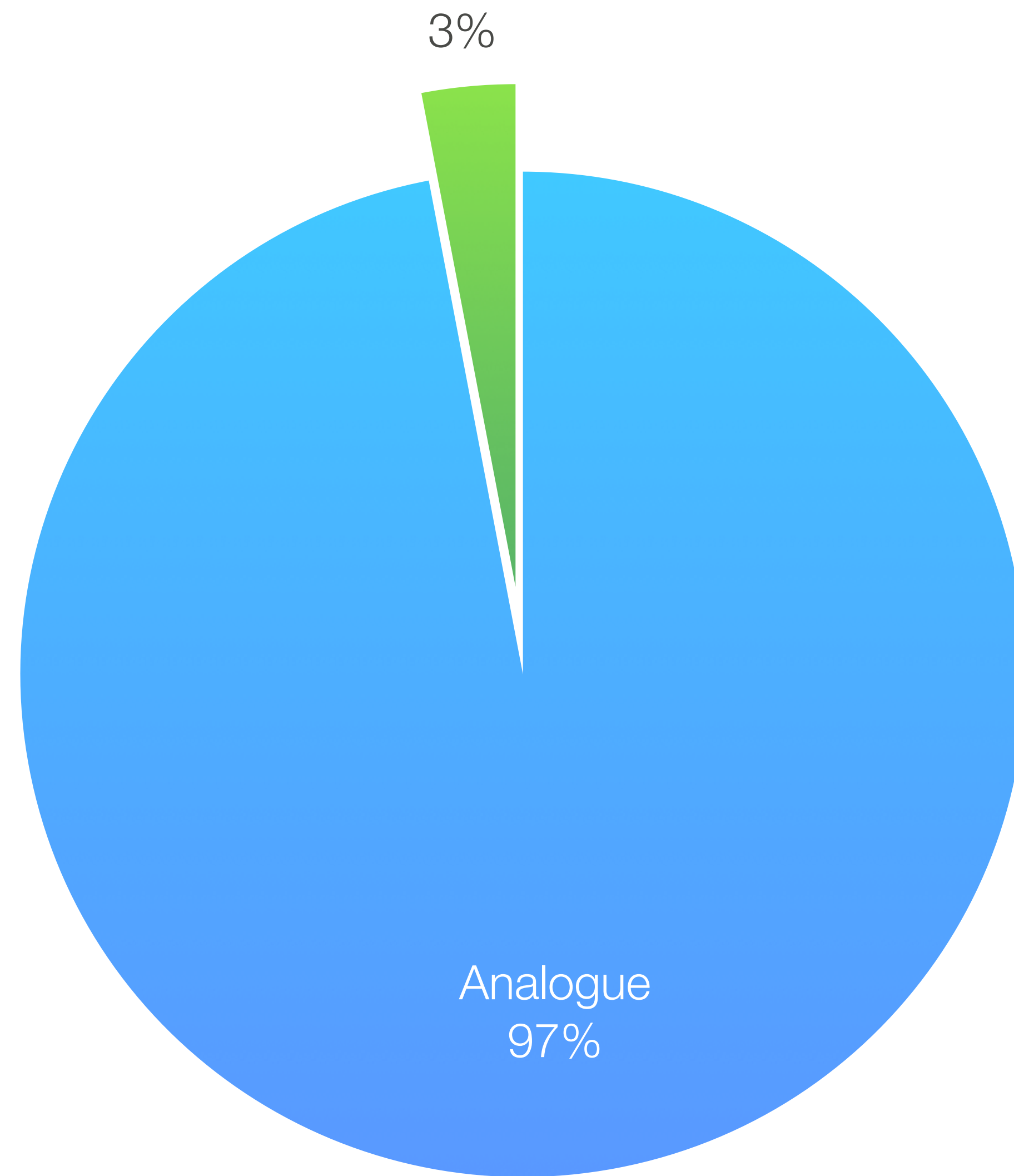
Typical adoption curve



Tracking adoption

- Audio networking is 18 years old
- We don't know where we are on the adoption curve
- Perhaps 1 to 3% of projects?

The real competition



What does the industry say?



Installation

ProAudioEast^{Middle}

ProAudioAsia

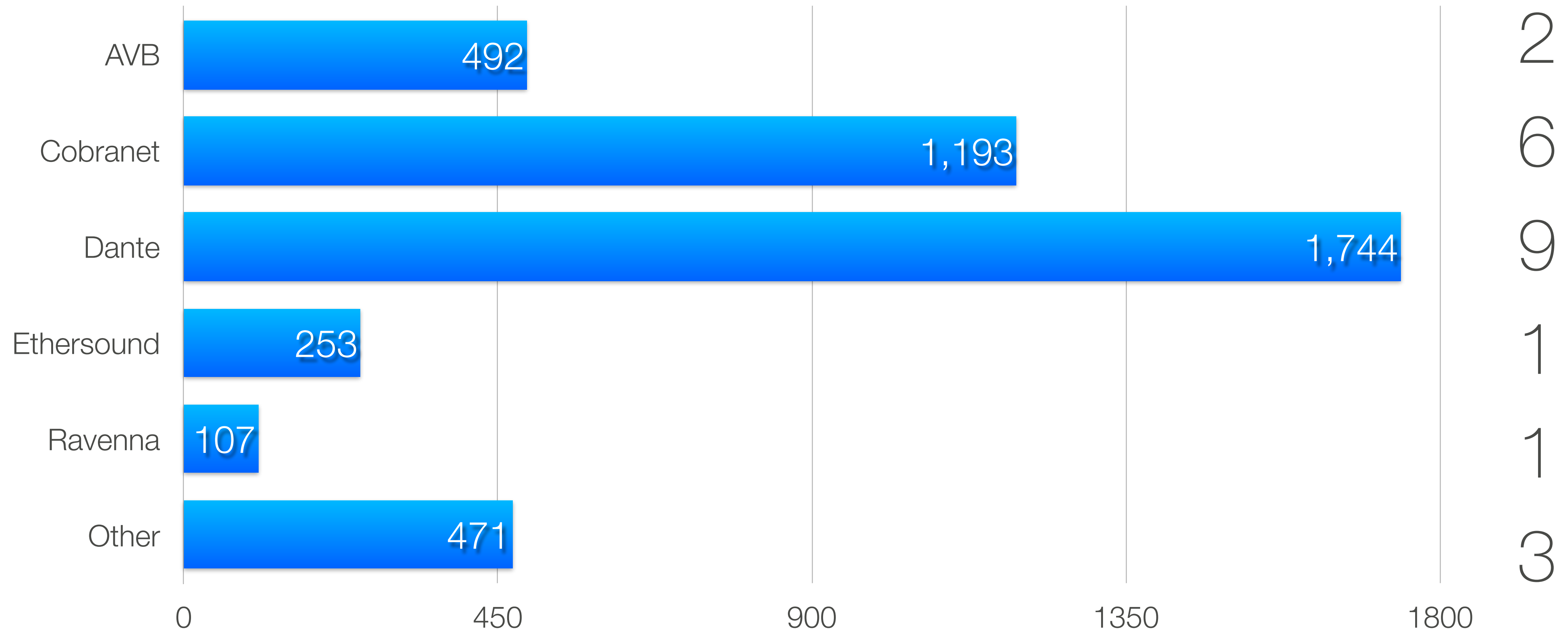
Worldwide survey with unprecedented co-operation from four magazines

Audio networking use

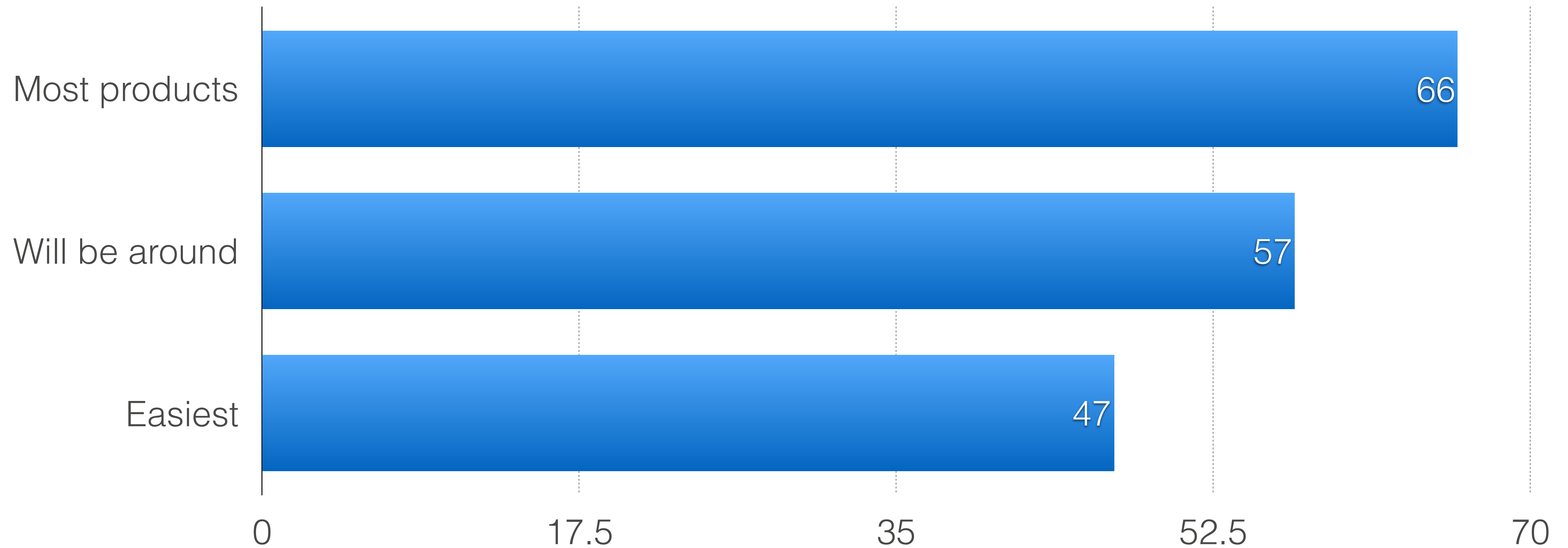
- 75% had done at least one networked project
- 66% used one of the 'standard' network protocols (9% custom or proprietary)

How many projects

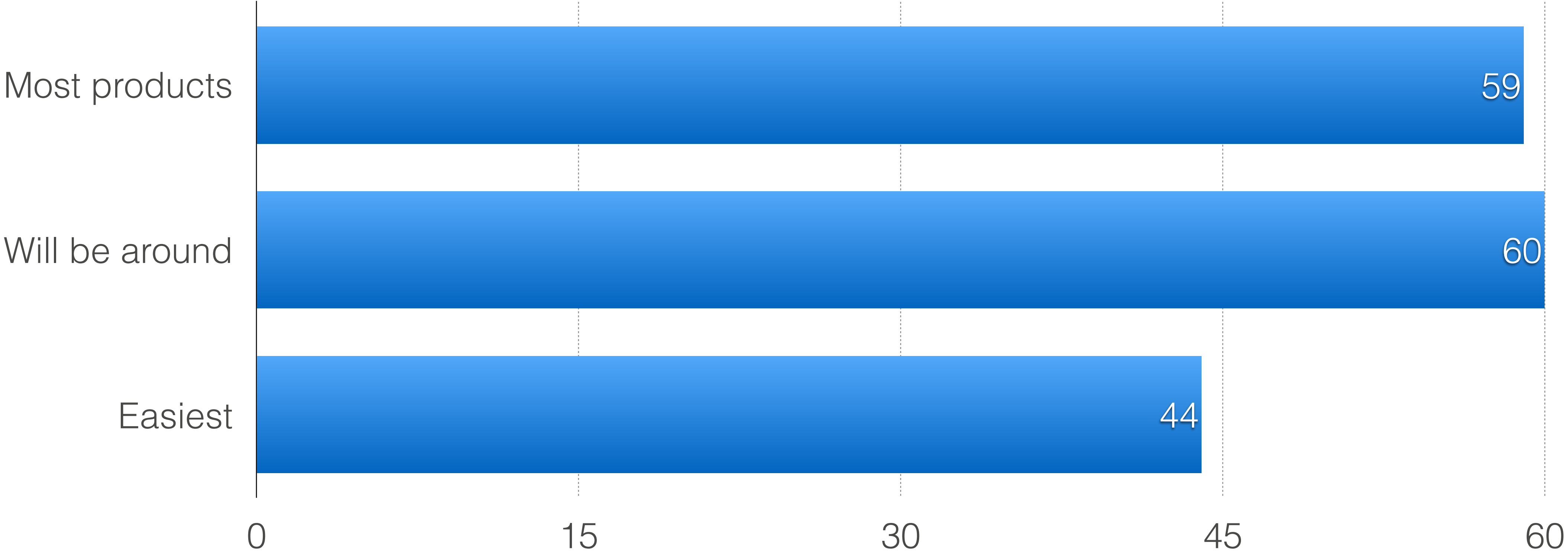
Projects per user



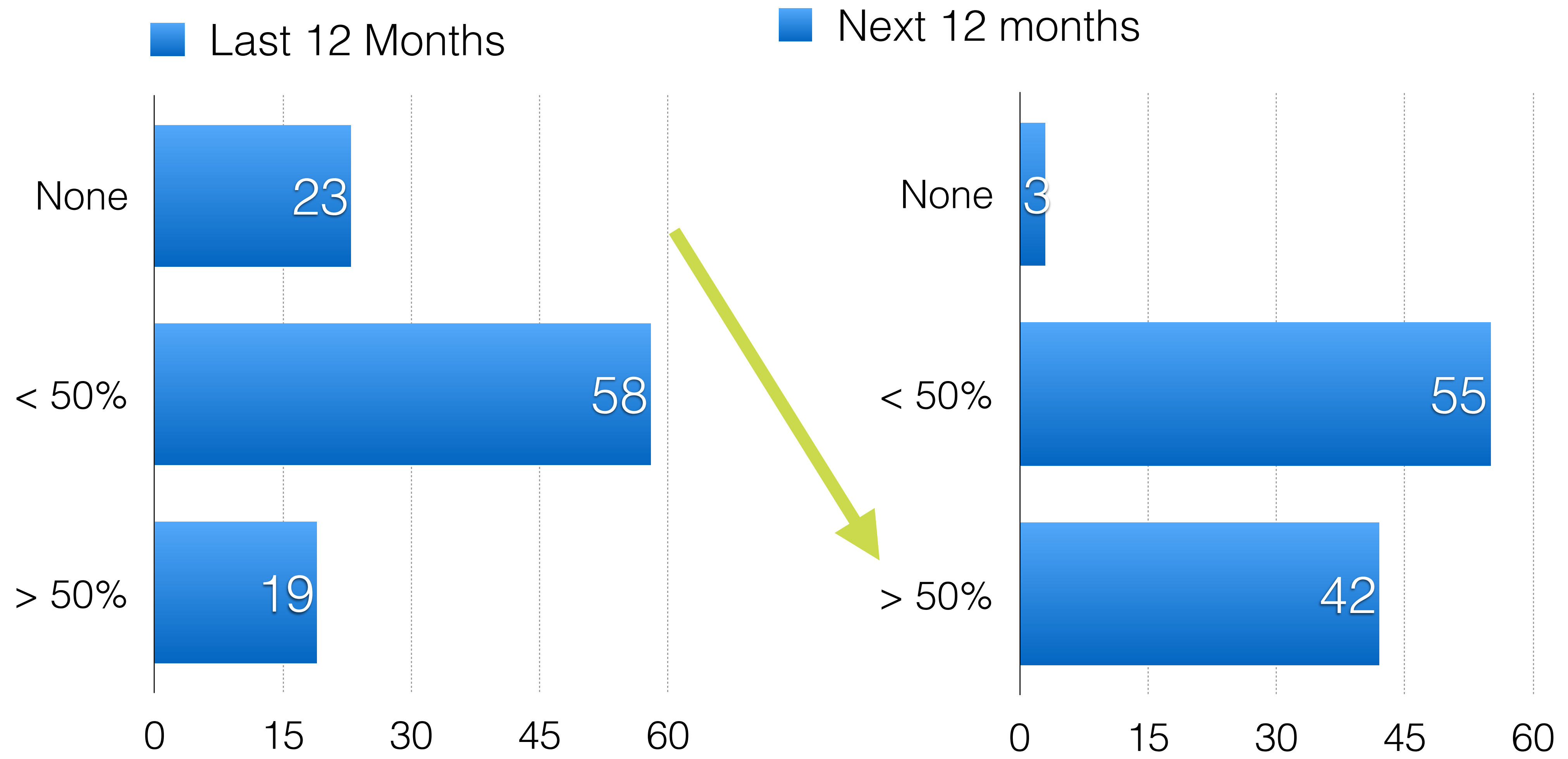
Reasons for most used protocol?



Reasons for change to a different protocol



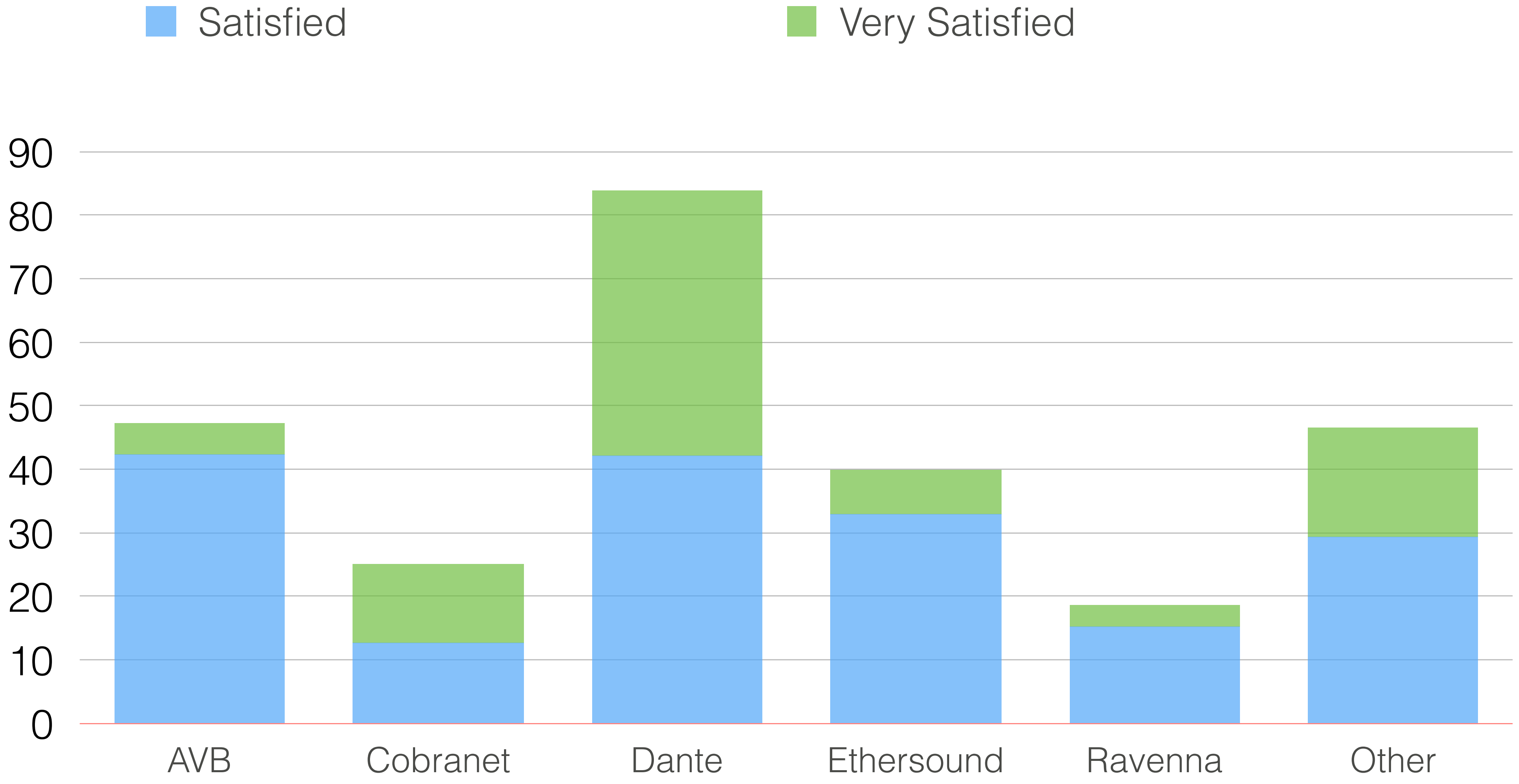
More networked projects



Reasons for not using...

- AVB - product availability, switches & support
- Cobranet - Old, Latency
- Dante - No consensus
- Ethersound - not needed, not supported, limited, support
- RAVENNA - Don't know it, broadcast only

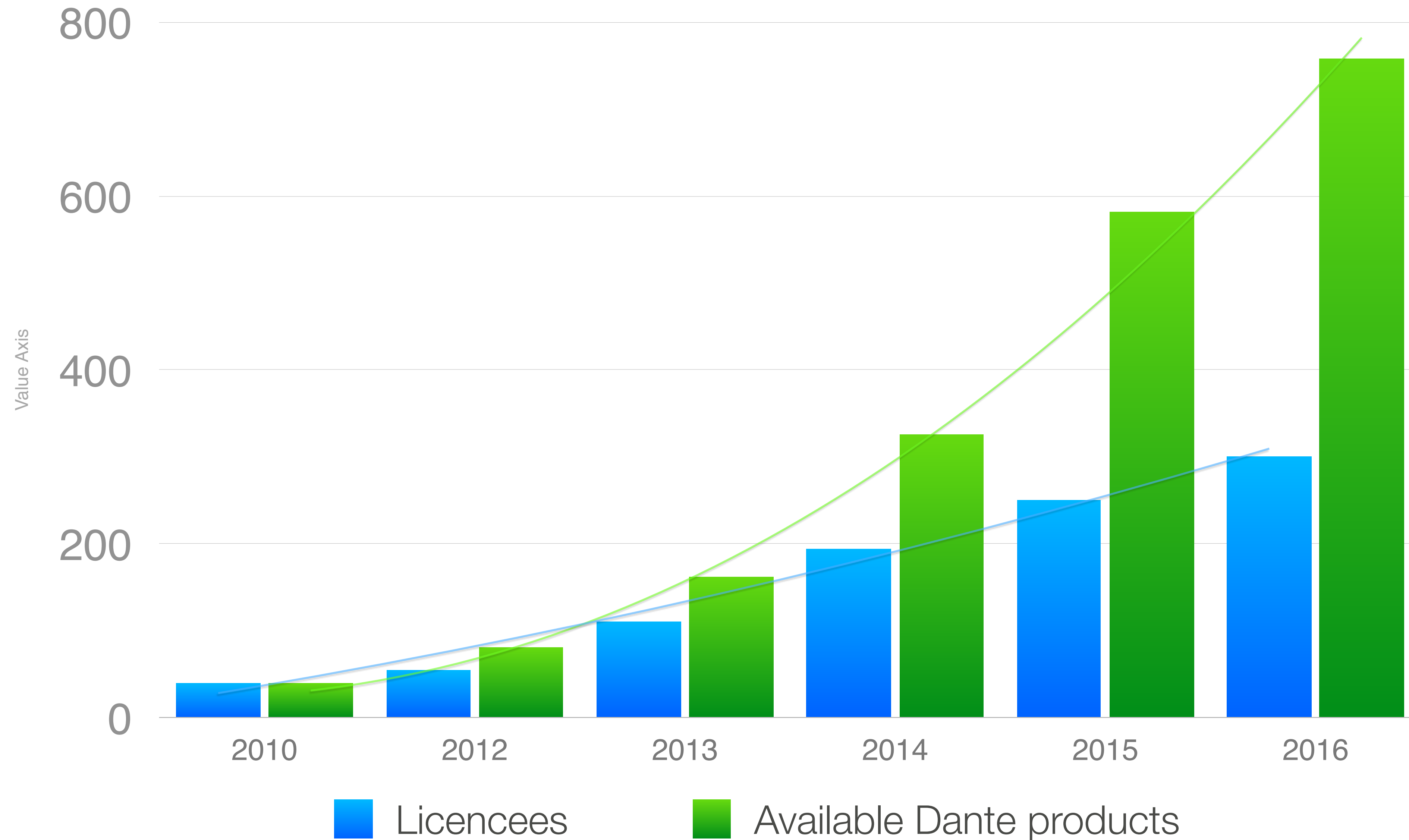
Protocol satisfaction



Who controls the market

- 127 people have decided to adopt audio networking
- 87 have opted for Dante

2015 and beyond



Where is Dante?

- Offering an integrated solution
- Evolving into modular phase AES67 support
- Becoming the De facto standard

Will control points change?

- Initially a few control points create a virtual monopoly
- Later, consumers wrestle control of that decision away from manufacturers

Summary

- Audinate are market leader
- Planning to evolve if they need to
- Dante makes a profit for its customers
- Competitors are slow to market, diminishing or focussed on a niche
- Adoption is increasing rapidly