



LOTNETWORK<sup>®</sup>

# LOT NETWORK REPORT 2022

Another year of record growth and added value for our members

Produced in association with



**CIPHER**

**RICHARDSON  
OLIVER  
INSIGHTS**

## LOT ASSET ACTIVITY

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# 117,044

Total assets have left LOT

# 4,717

Left LOT and went to NPEs

## LOT NOW HAS

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# 2,731

Total members with **831** new companies added in 2022

# 3,652,925+

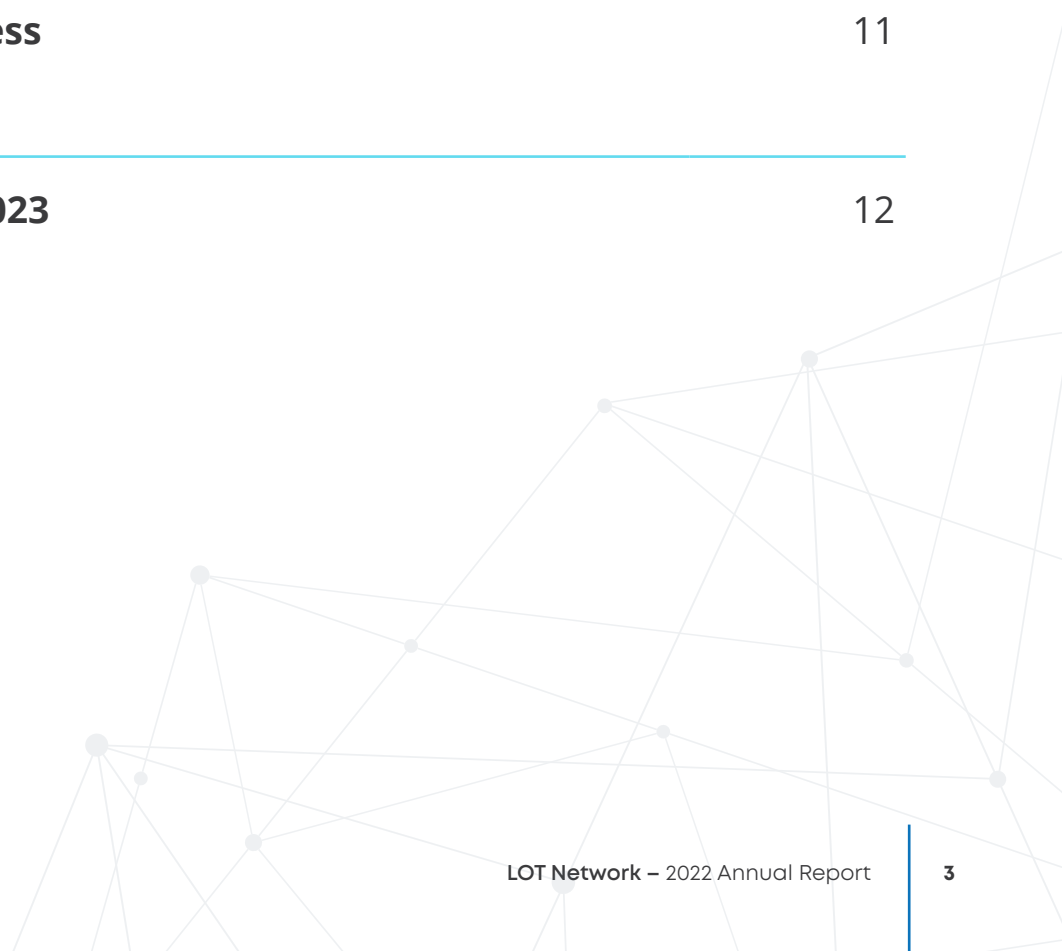
Patents and applications owned by members, including **16%** of all active US patents  
**2nd, 3rd, 4th, and 5th** largest global patent holders

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**2022 was another record year for LOT Network, with 831 new members joining our community. Each year, in LOT’s 8-year history, has been a record year of growth – proof that LOT has become the solution of choice to address the NPE issue.**

Our membership includes companies across all industries and companies of all sizes. As LOT Network is free for companies with less than \$25 million in annual revenue, a key focus for 2022 was encouraging Startups of Value (SoVs) to join. A SoV is a startup that is positioned to understand LOT Network’s value, e.g., has one or more of the following: at least one patent asset, at least \$1 million in annual revenue, one NPE suit against them, or at least \$100 million of investment capital. Through education of the venture capital and private equity communities, 307 of our 831 new members in 2022 were SoVs.

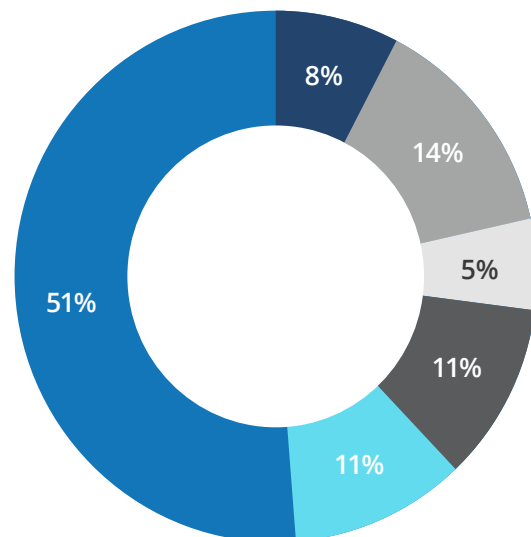
You’ll find in this year’s report important updates on the benefits and activities within our community. Cipher has provided us with a detailed look at the types of patent assets owned by our (as of 2022) 2,700+ members; our annual meeting LOT Network BRIDGE featured the introduction of ADAPT, a Diversity, Equity and Inclusion (DEI) initiative founded by member companies Amazon, Cruise, Disney, Google, Meta and Microsoft. Richardson Oliver Insights also shares an analysis of the overall patent sale market and patent assertion entity (PAE) activity, while a High Tech Solutions (HTS) report highlights some key findings on NPE litigation.

The data from Richardson Oliver Insights (ROL) and HTS show not only that NPEs continue to acquire assets in large numbers, but that operating companies of all sizes and industries are at risk of getting sued. In particular, 51% of the companies sued by NPEs in the last 5 years have less than \$25 million in annual revenue.

It’s important to note that more than 117,044 assets have already left LOT Network, of which over 4,717 have gone to PAEs. Due to the transparency, uniformity, and wide-adoption of the LOT Agreement itself, none of these assets have been asserted against LOT Members. This data reaffirms that LOT does not interfere with the normal uses of patents as LOT members continue to sell assets and use them in the normal course of business.

**Chart 1: NPE Targets by Revenue Tranche**  
(with count adjustments)

- Over \$10B
- \$1B-\$10B
- \$500M-\$999M
- \$100M-\$499M
- \$25M-\$99M
- Less than \$25M



(Please note in this report the terms non-practicing entity (NPE) and patent assertion entity (PAE) may both be used. Various sections of this annual report were provided by different contributors using their data sources. Generally, a NPE is a patent holder that does not produce products, including universities, individuals and PAEs (entities whose sole business model is to buy and assert patents). In contrast, LOT Network focuses on addressing the PAE issue. Universities are not considered PAEs and may join LOT Network. Mere membership in LOT Network by a University is not considered a transfer under the license. As a reminder, a company must be part of LOT Network BEFORE an asset leaves in order to be protected. Non-members may be sued by assets that leave the community.

# Patent Assertion Entity Risk

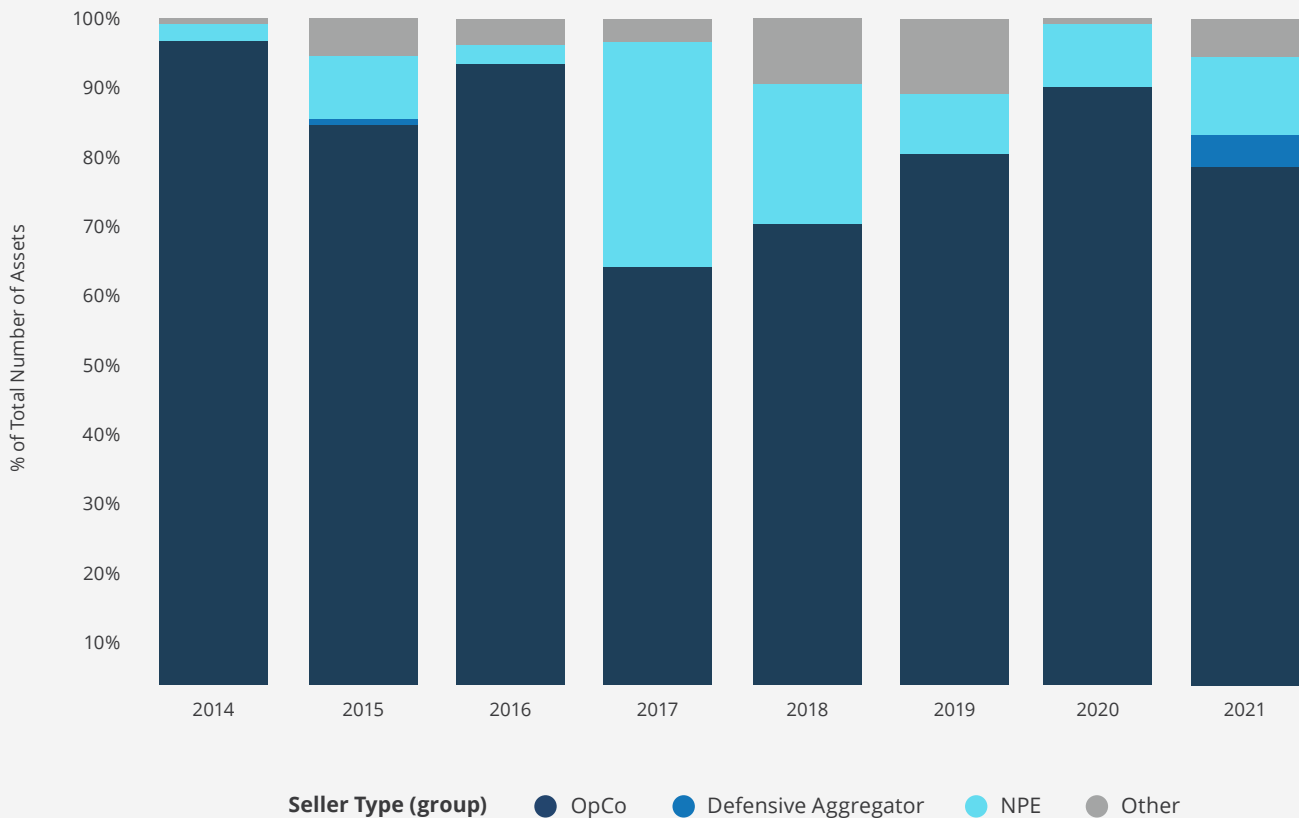
As we shared last year, a ROL study on the brokered patent market showed that corporate sellers supply the vast majority of the patents to PAEs. Corporate sellers continued to be the majority supplier to PAEs in 2022.

Between 2014 to 2020, operating companies sold 6,999 patents to PAEs on the brokered patent market. These sales represent 65% of the total patents sold to PAEs. This year, ROL provides a broader view of the market, and the numbers are dire. In its broadened market report, ROL shows that of the 30,118 assets bought by PAEs, operating companies supplied 25,354. In any given year, operating companies supply PAEs anywhere from 63% to 97% of patents. Chart 2 shows the percentage of the patents bought by PAEs came from different types

of sellers. Operating companies generally supply the lion’s share of patents on the secondary market, but more specifically, they are the largest supplier to PAEs.

Each year, corporations supply between 1,000 and 9,500 patents to PAEs through the patent market. This may seem like a drop in the bucket, but the story does not end there. Once PAEs buy patents from an operating company, they continue to do so. ROL’s analysis shows that PAEs return to the same seller again and again after an initial purchase. Often these subsequent patent purchases are made privately – meaning that even if you had wanted to bid on those patents, the opportunity did not exist.

**Chart 2: PAE Purchases by Seller Type - Asset Counts**



# What's in LOT Network?

LOT Network member and collaborator Cipher tracks the patent assets that are in or that have left LOT, and offers useful insights into the world's largest patent portfolio: LOT Network, with 3.6 million patent assets owned by our 2,700+ members.

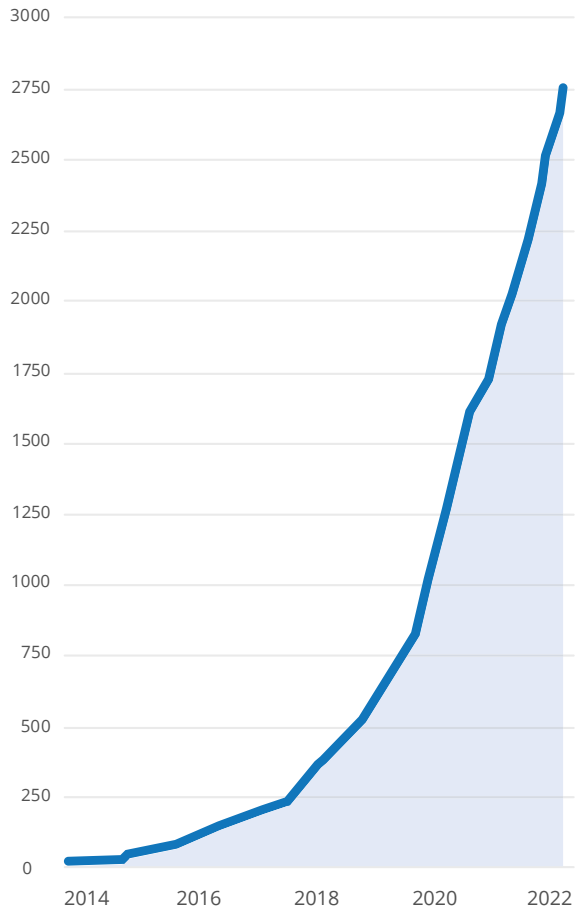
Chart 3 illustrates the growth in LOT membership year after year. 2022 was our 8th consecutive year of record year-over-year growth, with 831 members added. LOT ended the year with 2,731 members across 56 countries.

With its continued rapid-membership growth, LOT Network has aggregated rights to the largest patent portfolio in the world. There are now over 3,652,925 active worldwide assets and counting subject to the LOT Agreement. This includes all active patents and applications owned by a member during their membership. Patents that have expired or applications that have been abandoned or rejected are not included in this number.

In the following sections, the aggregate of these patents and applications subject to the LOT Agreement is referred to as the LOT Network Portfolio. The diversity of LOT Network members means that the LOT Network Portfolio offers protection for all companies, regardless of size, sector, or geographic location. Cipher analyzed the entire LOT Network Portfolio by sector and technology:

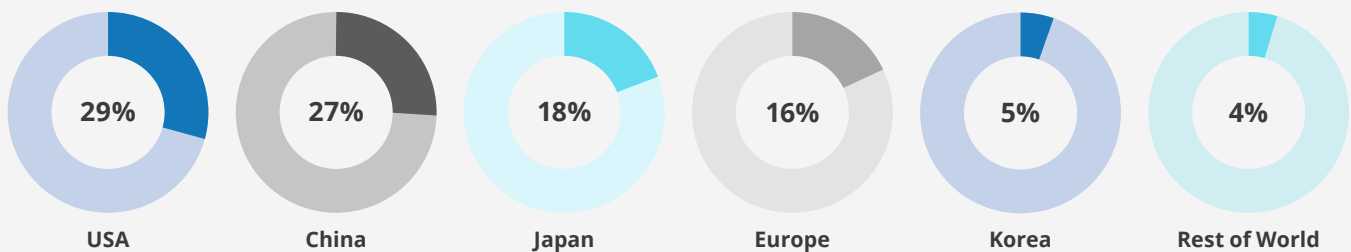
The LOT Network Portfolio has the greatest coverage in the US (29%), closely followed by China (27%) and Japan (18%) as shown in Chart 4.

**Chart 3: LOT Membership Over Time**



A company must be part of LOT Network BEFORE an asset leaves in order to be protected. Non-members may be sued by assets that leave the community.

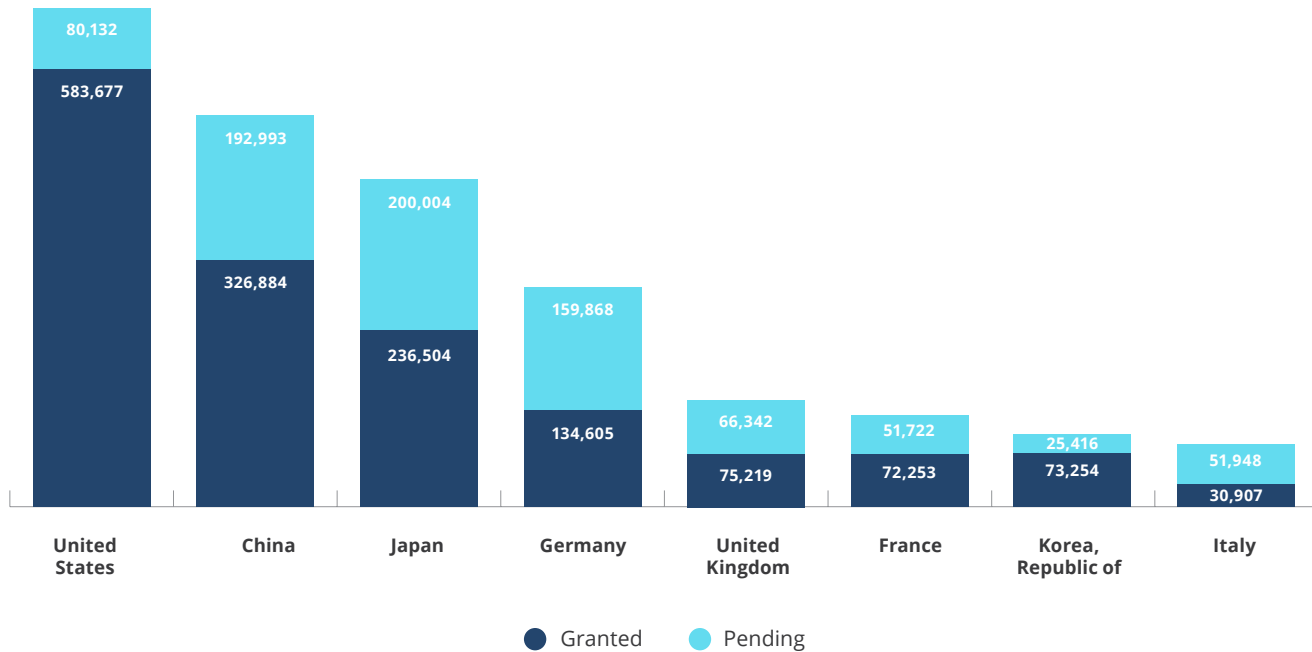
**Chart 4: LOT Network Portfolio by Geography**



It's worth noting that the LOT Network Portfolio grew 16% in China year-over-year. This is significant given the pressure that many Chinese companies are facing to monetize their portfolio.

Cipher also broke down the LOT Network portfolio by country, as well as separating patents and applications, rather than listing just at family level. This data is contained in Chart 5.

**Chart 5: Number of active patents and applications currently owned by country**



There were **3,577,294 active US patents** at the time this data was collected. This means **over 16%** (1 out of 6) of all US patents are currently under the LOT Agreement.

The LOT Network Portfolio covers a broad range of technologies, and one way to appreciate this is to analyze it through the Universal Technology Taxonomy (UTT) system widely used by those doing patent portfolio analysis. Chart 6 represents the top 9 areas within the portfolio.

**Chart 6: LOT Network Portfolio by UTT system**

Technology	Patent Families	%
Information	332,148	28%
Mechanical	262,203	22%
Electrical	142,870	12%
Sensors & Optics	125,231	11%
Telecommunication	77,290	7%
Materials	71,255	6%
Energy	68,889	6%
Semiconductors	54,437	5%
Life Sciences	50,744	4%

Chart 7 shows the largest sub-classes of the UTT within the LOT Network Portfolio. Using this classification system, we know the LOT Network Portfolio has 153,033 patents and applications related to artificial intelligence and machine learning.

**Chart 7: Largest UTT Sub-classes of LOT Network Portfolio**

Technology	Patent Families	%
Storage	68,394	18%
Motors	48,859	13%
eCommerce	38,533	10%
Wired Networks	36,087	10%
Transmissions	33,305	9%
Heat Exchangers	32,757	9%
Image Processing	30,423	8%
UI	29,096	8%
Displays	28,811	8%
Engineering Software	28,574	8%



# LOT Network BRIDGE: Building Community in IP

In September, we were delighted to host the first fully in-person annual gathering of our members, LOT Network BRIDGE, since the start of the pandemic. The well-attended event opened to a full house at the Palace Hotel in San Francisco, and featured the launch of **ADAPT - Advancing Diversity Across Patent Teams**, a consortium of IP leaders from Amazon, Cruise, Disney, Google, Meta, and Microsoft, who led a half-day of diversity, equity, and inclusion conversations and roundtable meetings. BRIDGE followed with a full day of members-only programming, including a keynote address by Kathi Vidal, Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office.

## Diversity in IP: How Will You ADAPT?

On the first day of LOT Network BRIDGE, Team ADAPT led a #dayofaction.



**Incredibly powerful to hear the personal stories of participants in the programs. Great conversation with other leaders to get their thoughts and actions on DEI.**

– LOT Network BRIDGE post-event survey respondent



The team reflected on the work that has already been done. The audience heard from ADAPT partner organizations and celebrated the possibilities they have created where none existed. ADAPT panelists shared their emotional journeys, and marveled at how, little by little, our profession is evolving - adapting - to be a profession where all viewpoints are welcome and represented.

But ADAPT also acknowledged that while they have laid the groundwork for real change within the IP profession, collaboration is required in order to create change at scale.

The vision of ADAPT is to achieve scale through access to information, through connection to people, all powered by technology. Through the [adapt.legal](https://adapt.legal) platform, ADAPT seeks (1) to give every person who wants to help an easy path to do so, even if all they have is one hour of time, and (2) to ensure that every person, who needs a village to support them in their journey, to become a successful IP professional with that, has a village.

Team ADAPT invites everyone to explore the [adapt.legal](https://adapt.legal) platform. The platform currently provides guides and other resources for establishing a DEIA strategy and for launching or joining DEIA programs within the

IP industry. They recently launched the inaugural ADAPT Mentorship Program for undergraduate students who want to enter the patent profession. They have many more new workstreams planned for 2023, including workstreams relating to DEIA data transparency.

If any part of ADAPT's mission resonates with you, we invite you to become a member of Team ADAPT by participating in one of Team ADAPT's working groups, contributing content to the platform, or by using the platform and providing feedback on your experience. You can contact ADAPT at [info@adapt.legal](mailto:info@adapt.legal).

**LOT members have 81,000+ assets covering batteries and 40,000+ assets on fuel cells.**





## Member Connectedness

Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office Kathi Vidal and Lead Advisor on Diversity, Equity, Inclusion, and Accessibility at the United States Patent and Trademark Office (and CEO of Diversity Lab) Caren Ulrich Stacy joined LOT CEO Ken Seddon for a Keynote fireside chat. Under Secretary Vidal and Lead Advisor Stacy discussed why the PTO has made a concerted effort to engage stakeholders of all sizes, industries, and views, what SEP licensors and licensees should take away from the withdrawal of the 2019 Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments, the role of the USPTO, Congress, and courts have when it comes to patent quality, strength, and value, and why Under Secretary Vidal decided to take on the leadership post at the USPTO.

Our member event, LOT BRIDGE, also featured ample time for connectedness and networking, as well as expert



**153,000+**

LOT Network members have **153,000+ patents and applications** related to artificial intelligence (AI) and machine learning (ML).



presentations by including Dan Doney, CEO of Securrency, Inc., on the future of crypto, Shayne O'Reilly, Head of Licensing & Open Source at Meta Platforms, Inc. (formerly Facebook, Inc.), on IP Issues in the Metaverse, and Ami Patel Shah and Jonathan James, managing directors with Fortress's Intellectual Property Finance Group on patent monetization for operating companies from an investor's perspective. Kurt Brasch, Director, Patent Transactions at Uber and President of the Allied Transportation Association (ATA), shared some ways that member companies can be involved in the ATA and the Prior Art Archive.

No LOT Network BRIDGE would be complete without our signature chocolate-tasting event, which was the perfect way to celebrate a successful and well-attended event. We're busy planning next fall's member event, and we hope that you'll be able to join us.



## Since 2014, the LOT Network Portfolio has grown to become the largest patent portfolio in the world.

The key to this growth is the LOT Agreement signed by every member, which provides a solution for companies to solve the PAE problem through a private ordered solution. With the LOT Agreement, we have earned the trust of 2,700+ companies who are able to immunize themselves from the largest source of patent risk impacting operating companies. More importantly, members are able to protect innovation and feel confident that all the traditional uses of patents are unaffected.

We don't take this trust for granted and are always looking for ways to deliver more value to our members. This year, we hired industry veteran Melissa ("Mel") Schneider as LOT Network's first Director of Community. Mel will be focused on addressing the needs and issues facing our members. This includes everything from deploying a member portal to ensuring we are providing the most relevant content to our members, and expanding our various member benefits like BRIDGE, patent sale marketplace, ADAPT, and more.

The entire team at LOT Network is always looking for ways to deliver greater value to our members. In 2023 our primary focus remains unchanged, and we look forward to continued membership growth in all areas and markets. As always, we welcome any input from our members.