

A graphic representing fluid dynamics simulation, showing blue, wavy, semi-transparent surfaces that resemble a mesh or flow field.

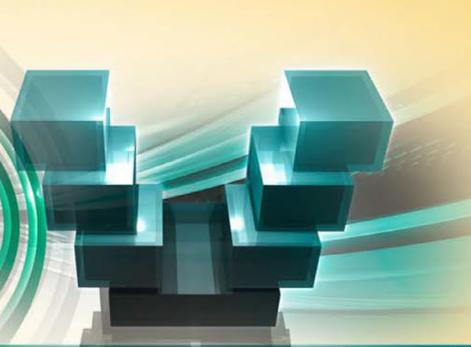
Fluids

A graphic representing structural simulation, featuring a purple gear with a glowing white and purple center, set against a dark background with other gears.

Structures

A graphic representing electronics simulation, showing a series of concentric green and white circles, resembling a lens or a wave pattern.

Electronics

A graphic representing systems simulation, featuring a 3D arrangement of blue and black cubes and rectangular blocks, suggesting a complex system or architecture.

Systems

ANSYS 2014 INVESTOR DAY

Executive Summary

March 12, 2014

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Important Factors Regarding Future Results

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Key Themes

Overview

Once again, ANSYS performed well in 2013 along all key metrics—including revenue, margins, earnings, cash flow, and customer satisfaction—and is well positioned for continued growth in 2014 and beyond. ANSYS has outstanding talent, innovative products and technologies, and financial strength, and is guided by a clear, long-term vision of Simulation-Driven Product Development™.

ANSYS continues to see tremendous market potential for engineering simulation (roughly \$20 billion in 5–7 years) and will continue to invest heavily in R&D and its business to drive market growth. These R&D investments will further improve the Company’s market-leading simulation technologies by evolving its platform for simulation. ANSYS will make simulation products that are even easier to use, combine multiple physics together, foster organizational collaboration, are faster and more scalable, and enable designers and developers to design entire systems. ANSYS’ products will continue to set the standard for simulation around the world, will help product developers solve their toughest product development problems, and will enable companies to deliver on their product promise.

Context

ANSYS 2014 Investor Day was held on March 12, 2014, in Pittsburgh, Pennsylvania. CEO Jim Cashman and other members of the ANSYS management team reviewed results from 2013, discussed the outlook for 2014, assessed the long-term opportunity for engineering simulation, described the Company’s vision, and highlighted the Company’s R&D focus and product strategy.

Key Themes

ANSYS continued to perform well in 2013 and anticipates continued growth in 2014.

In 2013, ANSYS’ revenue, earnings per share, and cash flow all showed strong growth. Margins and recurring revenue remained strong, and deferred revenue and backlog continued to grow.

For 2014, ANSYS assumes modest improvement in the macroeconomic environment, particularly in the second half of the year, and anticipates constant currency non-GAAP revenue growth of 8% to 11%. ANSYS expects gross margins of 87–88%, operating margins of 47–48%, and non-GAAP EPS of \$3.25 to \$3.37.

ANSYS will continue to drive organic growth by investing about 16% of revenue in R&D, adding outstanding talent, building on the Company’s global presence, and strengthening and leveraging relationships with channel partners, academic institutions, and industry-leading vendors. ANSYS will look to continue to deploy capital through strategic acquisitions that fit into ANSYS’ roadmap and add new technologies to ANSYS’ portfolio that add synergy with the Company’s customer base and global channel, add top talent, and are financially accretive in a reasonable time frame.

ANSYS continues to see a huge future opportunity with clear drivers of growth.

In today’s highly competitive global economy, product innovation is the key to success for many companies and in many industries. To win in this environment, companies want to develop better, more sophisticated products, want to bring new products to market even faster through shorter product development lifecycles, and want to lower their product development costs. Companies also recognize that they must get their products right and can’t afford to be wrong.

Based on these competitive dynamics and pressures, ANSYS sees an enormous opportunity for simulation and for the vision of simulation-based product development. Specifically, ANSYS sees a potential addressable market for simulation of \$20 billion in 5–7 years.

The key factors that will turn this opportunity into reality are increasing the number of simulation users, increasing the density of simulation use, and increasing the intensity of usage. ANSYS’ vision and R&D efforts are focused on these three dimensions of opportunity.

- **Increasing the number of users.** This will be achieved by improving the ease of use of simulation, making simulation more accessible to more people in an organization, and increasing the situations in which simulation is used.
- **Increasing the density of usage.** This involves broadening the use of simulation beyond just one type of physics within one silo in an organization to true multiphysics used collaboratively by teams to assess entire systems.
- **Increasing the intensity of usage.** This involves using scalable high-performance computing (HPC) to solve difficult problems in minutes instead of hours or days.

Growth along these dimensions will increase who uses simulation, when it is used, and how frequently it is used.

R&D at ANSYS is in alignment with this opportunity and the dimensions of growth.

Among ANSYS’ advantages are products with unequaled depth and unparalleled breadth in each area of physics, including structural, fluids, electronics, semiconductors, and more. But ANSYS’ vision is to integrate these capabilities so that product developers who increasingly work in collaborative teams can simultaneously look at all of the physics involved (true multiphysics) and can look not just at a product’s individual components, but at entire systems.

The latest release of ANSYS® 15.0 and multiple innovative breakthrough products add tremendous features and capabilities that allow customers to use simulation to solve their hardest, most important product development problems and to solve these problems accurately and dramatically more quickly.

The Power of Our Products

Jim Cashman, President and CEO

Overview

ANSYS continued to perform well in 2013, with success based on the Company's vision of Simulation-Driven Product Development™, financial strength, outstanding talent, leading products and technologies, global presence, and a large and growing simulation ecosystem.

Going forward, ANSYS sees a total addressable market for simulation of \$20 billion in five to seven years, driven by more new users of simulation, increased density and intensity of simulation usage, and decreased barriers to adoption. As the market for simulation grows, ANSYS is extremely well positioned due to market-leading products—particularly multiphysics solutions which fit with today's more collaborative product development environment—along with continued significant investments in R&D and a robust pipeline of innovative products, which are shaping the future of simulation.

Context

ANSYS president and CEO Jim Cashman described where ANSYS is today, quantified the potential longer-term addressable market for simulation, and explained how ANSYS' vision, products, and R&D investments position the Company favorably to take advantage of the huge future opportunities that will exist.

Key Takeaways

ANSYS' product promise is helping customers realize their own product promise.

For companies in all industries, global competition is increasing, product lifecycles are shrinking, and liability and regulatory claims are growing. Winning in this demanding marketplace requires developing innovative products more quickly than ever before that work in the real world. And, in this environment, for companies to fulfill their brand and product promises, it has never been more important to be right when developing innovative new products. Being right means being able to predict a product's real-world performance along all dimensions with complete accuracy.

It is ANSYS' product promise to provide breakthrough tools and technologies to enable companies, by using simulation, to realize their own product promise, and to do so more accurately, faster, and less expensively than ever before.

ANSYS' vision is unchanged, as are the Company's advantages and its consistent performance.

To understand ANSYS' success, it is important to realize:

- **ANSYS' vision of Simulation-Driven Product Development.** ANSYS' vision has always been around the concept of simulation-driven product development. The idea is to use simulation at the earliest

stages of a concept to get multiple people looking at what will happen to a product and balancing the many tradeoffs. Simulation-driven product development can happen before detailed design and before manufacturing planning. Simulation helps companies fail early and fail often—in a virtual world, so problems can be solved before entering the real world. Compared to traditional product development, simulation-driven product development is faster and less expensive, and results in better, higher-quality solutions.

“Simulation-driven product development is still the main driving force of what we're all about.”

– Jim Cashman

- **ANSYS has a truly global presence.** This global presence puts ANSYS close to customers, wherever they are in the world. Currently, about one-third of ANSYS' revenue comes from the Americas, one-third from Europe, and one-third from Asia. ANSYS' global presence is also reflected through more than 75 sales offices around the world, with sales channel partners in more than 40 countries, and engineering talent at 17 major development centers on 3 continents.
- **ANSYS has the world's largest simulation community.** ANSYS has built the largest simulation community and ecosystem in the world, consisting of tens of thousands of customers (including 96 of the Fortune 100 companies), about 200 channel partners, industry partners, and simulation thought leaders who are pushing the boundaries of what is possible. This community is self-perpetuating, and is developing and transferring great ideas.
- **ANSYS has high levels of customer loyalty.** ANSYS is focused on driving extreme customer satisfaction and the Company's Net Promoter Score is in the top quartile of leading B2B software companies.
- **ANSYS has tremendous advantages, particularly in products and technology.** The key to ANSYS' advantages are the Company's market-leading products and technologies, which are built on the foundation of the Company's vision and financial strength, and are complemented with industry solutions, value-added services, and global support.

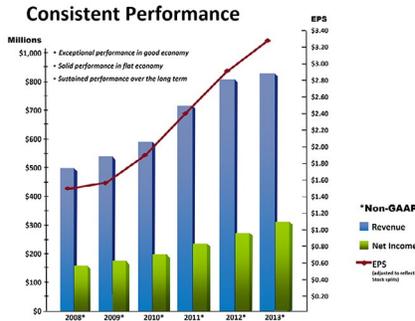
The ANSYS Advantages



The five major product and technology advantages are:

- **Unparalleled depth.** ANSYS is the leader in each individual area in which the Company has a product, and is committed to continuing to drive this leadership. All products provide the highest level of accuracy and are used to solve customers' toughest problems.
- **Unparalleled breadth.** In addition to each individual product being the leading product in its area, ANSYS also has an unparalleled range of products.
- **Comprehensive multiphysics.** This is where ANSYS takes simulation to the next level by coupling together multiple physics to provide comprehensive, system-level simulation.
- **Engineered scalability.** Not only have ANSYS' products been architected to work together, but they are scalable. Some customers at the beginning of their simulation journey only have a few seats, while others have thousands. There are also organizations using high-performance computing (HPC) that are using 10,000+ cores, or more, and are contemplating more than 50,000+ cores in the future.
- **Adaptive architecture.** ANSYS' customers have a variety of very complicated IT environments. ANSYS' goal is to provide maximum flexibility and openness.

This vision, global presence, customer loyalty, simulation community, and superior products have led to ANSYS' consistent performance in all types of economic conditions, with growing revenue, net income, and earnings per share.

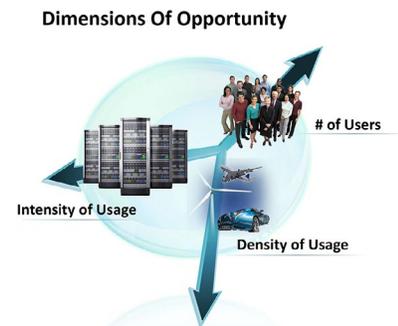


By overcoming the barriers to adoption, ANSYS envisions a potential \$20 billion addressable simulation market.

As strong as ANSYS' past has been, the Company's focus is on the future. ANSYS is extremely excited about the future because market conditions are presenting tremendous opportunities. In fact, ANSYS believes that the total addressable market for simulation could potentially grow to about \$20 billion in the next five to seven years. The key dimensions of this opportunity are:

- **Increasing the number of users (~50% of the opportunity).** As ANSYS becomes easier to use and as automation improves, those who can use ANSYS simulation products have expanded from experts to engineers to designers, with full-scale democratization of simulation under way. Still, within existing accounts less than 5% of all engineers use simulation, providing a tremendous opportunity for growth in the number of users.

- **Increasing the density of usage (~25% of the opportunity).** Density will grow as more organizations expand from using single physics to multiple physics and then true multiphysics. The potential for multiple physics and multiphysics is increasing as two-thirds of ANSYS customers have cross-functional design teams, but only one-third are actually designing cross-functionally. However, to date, only one-third of all customers have adopted multiple physics, with most still using just single physics. As organizations become more collaborative in designing products, they are likely to increase their density of usage.
- **Increasing the intensity of usage (~25% of the opportunity).** Companies want to get answers more quickly and 80% of ANSYS customers have a high-performance computing (HPC) infrastructure; however, fewer than 10% currently use HPC for simulation. As this adoption rate continues to grow, the intensity of usage will increase.



“This is a staggering number. We have sized the addressable market for simulation as approximately \$20 billion over the next five to seven years.”

– Jim Cashman

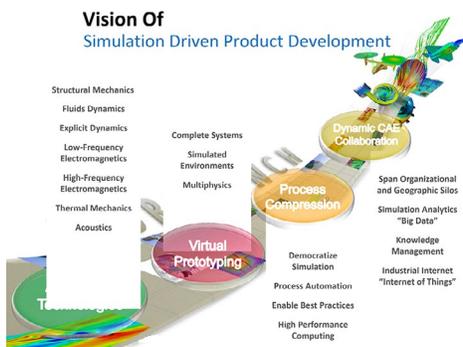
A key part of growing the addressable market is overcoming existing barriers to simulation adoption. A previous barrier involved lack of adequate computing power. But with advances in computing power over the last 20–30 years, this is no longer as much of a barrier. The key barriers at this time are:

- **Organizational evolution.** Greater use of simulation represents a fundamental change in how organizations develop products and do business. Moving from manual processes to the use of simulation and from use of single physics within silos to use of multiphysics through collaboration are difficult evolutionary changes that take time.
- **Processes.** New technologies and capabilities require new processes. For companies that have previously had success in how they develop new products, they may be reluctant to change their processes.
- **Ease of use.** As personal computers became easier to use the amount of usage expanded. To date, ease of use has been a barrier for simulation, but this barrier is coming down.
- **IT infrastructure.** Procuring infrastructure to run simulation was previously a barrier, but this is another barrier that is coming down.

While ANSYS' projection of the potential addressable market in five to seven years is staggering and audacious, based on projected growth in users, density of usage, and intensity of usage, along with addressing the barriers to adoption, the opportunity is actually realistic and attainable.

Through its commitment to R&D and innovation, ANSYS is making considerable progress in shaping the future of simulation.

After contemplating how big the future simulation market could be, the obvious question for ANSYS is, "What are you going to do about it?" The good news is that ANSYS has a flood of innovation in the pipeline, starting with ANSYS 15.0. Even better news is that this innovation pipeline is completely consistent with ANSYS' long-term vision of Simulation-Driven Product Development.



ANSYS' innovation pipeline reflects the Company's continued commitment to high levels of investment in R&D, and the constant addition of high-caliber talent, with around 1,000 professionals in R&D, including over 500 PhDs. These innovations, which are shaping the future of simulation, include:

- **Advanced technologies** based on physics breakthroughs, with examples in composites, chemistry, advanced contact, and extreme deformation.
- **Virtual prototyping** of complete systems to the point where virtual prototyping is being used to validate designs and is adequate for complete sign-off.
- **Process compression** based on the ability to simplify and automate. This is democratizing simulation and putting it in the hands of more users. Process compression also provides greater ability for optimization and scalability.
- **Dynamic CAE collaboration** as the HPC leader, with secure collaboration hubs, cloud capabilities, and mobile platform support.

“ANSYS is shaping the future of simulation . . . a total immersive environment for simulation.”

– Jim Cashman

Driving R&D at ANSYS

Walid Abu-Hadba, Chief Product Officer

Overview

ANSYS is committed to and investing heavily in R&D, which involves attracting the best talent in the world and forming partnerships with leading research institutions and vendors. All of ANSYS' R&D activities are aligned with the growth dimensions of increasing the number of simulation users and increasing the density and intensity of simulation.

Also, to fulfill ANSYS' vision of Simulation-Driven Product Development, R&D is taking ANSYS' technology in several new directions including a more immersive user experience, greater collaboration, enhanced cloud and big data capabilities, and working to make ANSYS the platform for simulation, with the ability to simulate entire products and systems.

Context

Chief product officer Walid Abu-Hadba described the R&D organization at ANSYS, explained how R&D is aligned with ANSYS' growth dimensions, and discussed ANSYS' key technology directions over the next 5–10 years.

Key Takeaways

R&D at ANSYS is driven by talent and partnerships.

The key to R&D at ANSYS is the Company's amazing talent. ANSYS currently has more than 1,000 software development professionals in 16 countries. Almost 50% of these individuals have PhDs, and these individuals are the cream of the crop in the physics and computer science world.

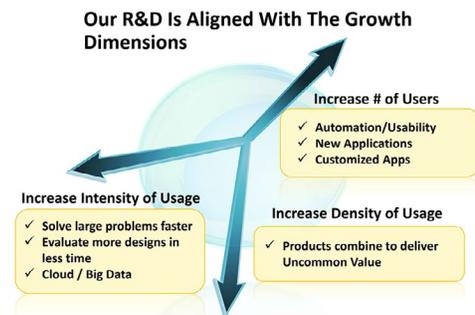
“There is no company in our software space that comes even close to the talent we have across every area of physics.”

– Walid Abu-Hadba

In addition, ANSYS has developed R&D relationships with more than 50 top universities and research institutions, along with active partnerships with more than 180 hardware and software providers. These relationships produce a constant stream of great research and ideas from across the globe.

ANSYS' R&D is aligned with the Company's growth dimensions.

R&D at ANSYS is completely aligned with the dimensions of growth: increasing the number of users, increasing the density of usage, and increasing the intensity of usage.



- Increasing the number of users.** R&D is working to increase the number of users in two ways:
 - Increasing ease of use.** This involves going beyond simulation engineers to get designers and analysts to understand and use simulation, by making it easier to use and more accessible.
 - Bringing new users to new scenarios.** Often the usage scenario has involved using simulation after prototyping has already taken place. But that is too late in the process. By pushing simulation and modeling to the front end of the process, the uses and number of users can be expanded. This is applicable in large companies, as well as small and medium-sized businesses.
- Increasing the density of usage.** Historically, engineers have been focused on one specific type of physics and have worked in silos. So, for example, companies designing cars would have one group working on the engine, another on the combustion, and another on the brakes, with no interaction between them. This is changing. Products today are increasingly complex, interconnected systems. ANSYS' evolution and vision fits with the changes in product development. ANSYS focused on products in single areas of physics, and broadened the Company's product line across multiple areas. But ANSYS realized early that multiphysics is where the world is going and has been focusing on comprehensive systems and collaboration. With products and solutions that "put it all together," ANSYS will drive greater density of usage.
- Increasing the intensity of usage.** Users of simulation must get the exact right answers from simulation, and in today's competitive landscape, need those answers even faster. So, R&D at ANSYS is focused on solving large problems faster, which involves powerful, high-performance computing. ANSYS can already scale to about

15,000 cores and will be growing to even greater volumes, which is compressing the overall product development cycle time, and in doing so, is increasing the intensity of simulation usage.

Executing ANSYS' vision of Simulation-Driven Product Development and growing the dimensions of use involve taking ANSYS' technology in several new directions.

The four key technology directions for ANSYS over the next 5 to 10 years are:

- **Immersive UI.** This entails making the software more accessible to more people by changing how users interact with it. The idea is to put users in the middle of the experience and let them interact with the software in similar ways as interacting with consumer devices. Immersive UI also involves providing a workflow that is efficient and compresses the overall simulation process so simulations can be set up, run, and shared quickly.
- **Collaboration.** Today, people don't want to design products alone or in silos; they want to work in teams. And, they don't want to change their entire IT infrastructure to do this. To enable collaboration as part of companies' existing and usually powerful computing infrastructures, ANSYS' approach is to have a simulation portal. This portal allows engineers with different areas of expertise—such as a structural engineer and a fluids engineer—to work together on the same model. It also enables collaboration from different geographies on different types of devices, with the ability to set access rights and security levels.
- **Cloud and big data.** Cloud is simply a form of computing infrastructure. So, if a company needed access to 15,000 cores to run a simulation for a few hours, instead of purchasing these cores—which would be very expensive—the cloud provides a way to rent them. This already exists today. ANSYS' flexibility allows customers to have whatever type of cloud infrastructure—private, public, or both—works best for them.

In terms of big data, ANSYS produces massive amounts of information. ANSYS' focus is in helping customers manage their data with a product called EKM, which will allow customers to archive, manage, and access their data in the easiest, most logical way possible. In addition, ANSYS is helping customers make sense of their data and use their data to solve problems.

- **Complete product simulation.** Increasingly, customers want to be able to simulate their entire product, in a variety of different environments; not just the performance of an individual component. This is the evolution from single physics to multiphysics that is playing out. To be able to perform a complete simulation of an entire product or system requires the right platform, right architecture, and right physics. ANSYS is the only company with deep expertise and assets in each area of physics and is proceeding to become the platform for simulation.

“We are becoming the platform company for simulation.”

– Walid Abu-Hadba

To become the simulation platform, ANSYS' software is being built to be extensible. ANSYS products will have APIs, as well as tools such as Automated Customization Toolkit (ACT) for customization and automation. These tools provide the ability for the development of apps or applets, which will benefit users by compressing processes, and provide monetization potential for developers and for ANSYS.

The Power of Our Products

Walid Abu-Hadba, Chief Product Officer
Siddharth Shah, Lead Product Manager
Matthew H. Commens, Ph.D., Product Manager
Aveek Sarkar, VP, Customer Support and Technology Evangelism
Sameer Kher, Manager, Research & Development

Overview

R&D at ANSYS is completely aligned with the dimensions of growth: increasing the number of simulation users, increasing the density of simulation usage, and increasing the intensity of usage. This is the focus of R&D at ANSYS, which is driving improvement of existing ANSYS products as well as the development of new breakthrough innovations.

Without compromising in any way on accuracy, ANSYS is focused on making simulation easier, more automated, faster, more scalable, and more collaborative. ANSYS' products and solutions are helping customers simultaneously simulate multiple physics and analyze entire systems. ANSYS' products are incredibly sophisticated and far superior to any other products on the market. And, fueled by significant R&D investments, ANSYS is continuing to develop even better, more innovative products that help customers solve their most important design problems.

Context

Walid Abu-Hadba and leaders from ANSYS' R&D organization described important enhancements in ANSYS 15.0, as well as other breakthrough product innovations that are helping customers solve their most challenging product design problems and that position ANSYS far ahead of any competitors.

Key Takeaways

ANSYS is helping customers solve their greatest design challenges, while enabling the Company to increase the usage, density, and intensity of simulation. Key areas of focus include products and solutions that make simulation more accessible, solutions that are highly scalable and dramatically decrease the time of simulation, solutions that enable organizational collaboration involving multiple physics, and solutions that allow organizations to take a comprehensive systems perspective.

Structural Mechanics

In ANSYS 15.0 there are more than 200 new features that make this the best release of ANSYS ever for structural mechanics. These features align with ANSYS' dimensions of growth in being easier to use and appealing to more users, increasing the density of usage, and increasing the intensity of usage through scalability. ANSYS 15.0 addresses some niche areas and helps users solve some very difficult problems.

Examples of features in 15.0 that improve ANSYS' ability to perform structural simulation include:

- **Innovative contact technology.** The bolt is the most fundamental way in which two or more parts are joined/fastened. A bolt may seem simple but the fastening action occurs in its threads; that's where the detail is. It has been slow and expensive to model a bolt's threads. But part of version 15.0 includes virtual thread, where ANSYS automatically models the threads with very good accuracy, but 10 times faster.
- **Automatic technology to simulate extreme deformation.** This is particularly relevant in simulating the impact on types of parts that undergo extreme deformation, such as seals used in the oil and gas industry. This type of simulation, which requires the solver to automatically adapt the mesh when extreme distortion occurs, was not possible before version 15.0.
- **Simulating thick composites.** Customers want to make materials lighter and stronger, need them to be reliable, and are looking at composites as solutions. Nowadays, thicker composites are being designed where in many instances these are combined with metals, and bad things can happen if not joined together properly. This problem needs to be studied and solved early in the design cycle, and can be done with ANSYS® 15.0.
- **Greater scalability.** ANSYS 15.0 dramatically improves solver scalability versus version 14.5, with improvements of two to five times. This is just one of many reasons for customers to upgrade. One way in which scalability is important is solving problems for large parts. In 2004—10 years ago—ANSYS solved a structural mechanics problem with 100 million degrees of freedom.

“With ANSYS 15.0, ANSYS has raised the bar by solving a problem with 1 billion degrees of freedom, done overnight on a 64 cores machine.”

— Siddharth Shah

- **Faster parallel meshing.** An example is that using ANSYS 15.0, a 250-part assembly was able to be meshed in 17 seconds. Meshing time has now moved to the computer, allowing designers to focus on analysis and design changes.

- **Collaborative model assembly.** Now, with ANSYS 15.0, there can be multiple engineers working in collaboration from multiple continents on different components that one person can then pull together to create one big model assembly. This really fosters collaboration.
- **Greater ease of use.** To improve ease of use, ANSYS 15.0 includes search and filtering. This is a little thing that makes the life of customers much better and improves their productivity.

Fluid Dynamics

As with structural mechanics, ANSYS 15.0 contains over 200 new features that have improved fluid dynamics simulation, making ANSYS 15.0 also the best release ever for fluid dynamics simulation. These improvements are aligned with ANSYS' dimensions of growth, with improvements around usability, automation, workflows, and scalability. Key improvements include:

- **HPC.** Fluids problems are computationally intensive, and can take considerable time to solve. But with HPC there is now the ability to access 100, 1,000, or even 10,000 or more cores, to dramatically reduce the time to solution. With the HPC capabilities in ANSYS software, it is possible to solve problems that previously took days or weeks in hours or even in minutes.

“With version 15, an example industrial application shows a 5X speedup of the solution time. This means that something that previously took a working week to solve can now be solved overnight.”

– Siddharth Shah

- **Simulation of combustion.** Combustion is a key aspect in the design of cost-effective and environmentally friendly engines and power plants, affecting both their efficiency and the generation of pollutants. The complexity of the chemical reactions and combustion process has meant that engineers previously had to make many simplifications to incorporate combustion as part of their fluids simulation. ANSYS 15.0 removes numerous such limitations, making it easier and more efficient to model combustion processes in much greater detail than previously possible in applications like natural gas combustion. Together with advances in HPC, these modelling advances in combustion in ANSYS 15.0 have reduced simulations times by as much as a factor of 7.

Also, complementing the release of ANSYS 15.0 is ANSYS' acquisition of Reaction Design, a recognized leader and expert in chemical reaction simulations.

- **Improved turbomachinery blade design.** Bladed turbomachinery is found in a wide range of products, from aircraft engines and power plants to automotive turbochargers and hydro turbines. Market and regulatory pressures to raise efficiency, reduce weight, minimize environmental impact, and improve durability are immense, and simulation is essential to improve and optimize the design of these bladed components to meet these ever-increasing

demands. ANSYS is an established leader here, and again adds new capabilities for turbomachinery analysis and design in ANSYS 15.0. It is now possible and feasible to gain even more detailed insight into their behavior, thanks to capabilities allowing the transient flow through entire rows of blades to be simulated with just a few blades. Enhancements are also included to efficiently simulate the interaction between fluids and mechanical physics, to predict not only the flow but also its effect on the structural integrity of the blade.

- **Full battery simulation.** Another innovation in ANSYS 15.0 is the ability for multi-scale and multi-dimensional modeling of batteries, required by many customers who need to simulate different types of battery designs, fully incorporating the effects of and interactions between fluid flow, heat transfer, and electro-chemistry.
- **The adjoint solver.** ANSYS is at the forefront of new simulation technology to bring simulation to the next level, using a complement to the core fluids solver technology known as the adjoint solver. With this amazing technology, engineers can shift from using simulation to predict how a design will perform, to using simulation to provide the design required to achieve the performance needed.

Electronics

As with all other ANSYS products, the focus for electronics is increasing the number of users, along with increasing the density and intensity of usage. Ways to do this include automating flows and allowing more access to this extremely sophisticated area of simulation. And, as in other product areas, we focus on providing a multiphysics bundle that no competitors can match, and leveraging HPC for greater scalability and speed in solving important, difficult problems.

“With HPC, we're allowing customers to leverage their hardware, their cores, their memory to solve at a scale and a speed that they never thought was possible.”

– Matthew Commens

In addition, ANSYS has provided an improved user interface and experience to optimize the design flow, with a great deal of automation added to the process of setting up a simulation with a particular emphasis in the areas of IC package and printed circuit board design. Previously, even an experienced user might need 30–60 minutes to set up a simulation in our 'traditional' 3D flow while the simulation might take an hour or more. This set-up time posed a barrier to usage. Now, the entire process for setting up a simulation for a printed circuit board design—even for a less experienced user—might take just a few minutes, making simulation far more accessible. This ease of use encourages engineers to use simulation far more frequently in the electronics design process.

Overall these enhancements to applications, design flow and high performance computing help engineers and product designers perform critical and extremely complex tasks accurately and in a fraction of the time previously experienced by our users.

ANSYS-Apache

ANSYS-Apache's products specialize in simulation for the semiconductor industry, where a transition is underway to a new class of transistor devices called "FinFETs." These transistors have vertical fin-like structures with geometry sizes being less than 20 nanometers (similar to 50 atoms of silicon stacked next to each other). This small size allows more functionality to be compressed into the same piece of silicon than in the past, and can operate with almost undiminished efficiency at lower levels of power—both of these are critical for low power design success.

However, as semiconductor design companies move to this technology, there are many challenges, such as the sensitivity of these devices to noise, the increased sensitivity of the wires that convey electrical signals to long term failure, etc. To enable these low power devices to operate at multi-GHz speeds it is essential that the power supply to the FinFET devices is as robust as possible. Also, the small size of the wires and devices make them more likely to fail. Both these (and other possible failure scenarios) require extensive power noise and reliability simulations over multiple operating conditions and software scenarios. At the same time, electrostatic discharge (ESD) is an increasing problem, especially for FinFET based devices. An ESD event can have potentially catastrophic effects leading to increased field recalls and longer time to market.

A first-in-class simulation technology for ESD simulation (PathFinder-Dynamic) has been introduced to keep up with these challenges for ESD immunity design. It is able to simulate what would happen to a device when an ESD event occurs considering the chip (transistors, substrate), package and other elements, so semiconductor engineers can redesign their circuits as needed. Also, to keep up with Moore's Law, ANSYS' R&D engineers have developed distributed simulation capabilities that enable the use of multiple networked computers to reduce the overall memory (RAM) requirement and the total turn-around-time (2-3X benefit) for time-domain simulation of a chip-package-board system. These solutions are always developed with **sign-off accuracy** being the key requirement ensuring predictable accuracy and match between simulation results and measured numbers. Another significant breakthrough that has been achieved is the introduction of a capability to perform simulation and analysis of a chip and package simultaneously in an integrated environment—this allows chip and package engineers to optimize their designs together to meet their cost and performance specifications.

Automotive Systems

Just as smart electronics devices with millions of transistors are incredibly complex systems, so too are today's automobiles, which have become increasingly sophisticated in terms of the electronics involved. Automobiles are no longer just a means of transportation; they are fully enabled, connected information and entertainment hubs. The amount of electronics in cars is predicted to double in the next few years to meet increasing consumer, regulatory, and market requirements. This poses significant challenges for the design community as they must worry not just about their individual components, but also about the interactions between these components in a system. So, designers in the automotive space must focus on the entire automotive ecosystem, dealing simultaneously with problems of heat, electromagnetic interference, and more. ANSYS is uniquely

positioned to enable these complex systems through its broad range of solutions in the areas of fluid dynamics, electromagnetics, electronics, embedded software, and structural dynamics.

An example of how ANSYS' products are being used to simulate automotive systems comes from NXP, a leading solutions provider in the automotive sector. NXP has developed a single multi-band chip that integrates the functions of six individual chips, reducing the size of the infotainment system by 75%. This extremely sensitive and complex technology was developed through collaboration between NXP's system design teams, software design teams, package designers, and chip design teams who used ANSYS' simulation platforms to optimize all aspects of the chip and system (including software) to make it usable in the infotainment systems for high-end cars like BMW.

Systems Products

With innovation being critical in almost every industry, companies are increasingly dealing with the challenge of designing and optimizing entire systems, which involves integration of all types of traditional physics along with electronics and embedded software. They are using ANSYS products to help them do this.

An example is a drone, which has moving mechanics, operates in a fluid environment, has electric drives, and is made autonomous by embedded software. The combination of all these physics is what a system designer really cares about, and needs to validate and optimize.

Three specific systems development challenges and how ANSYS is helping customers address these challenges are:

- **Managing design complexity.** In a system, there are multiple pieces that are typically developed and designed by different teams, which all need to work well together. It is therefore important to get the interfaces and interactions right. ANSYS has a solution (SCADE System) that applies principles of model-based systems engineering to help customers tackle this complexity.
- **Reducing embedded software costs.** For complex systems with critical software components, the embedded software costs may represent nearly one-third of the total development cost. Therefore, it is extremely important for customers to be able to understand, manage, and reduce these software costs.

In this area, ANSYS has two products: SCADE Suite and SCADE Display. These products help reduce costs by automatically generating code, which is platform independent, and which can be certified by various certification authorities.

- **Optimizing system performance.** This involves combining all of the different aspects of a system and being able to analyze and optimize, do "what if" analysis, and trade-off analysis among performance, cost, and time to market.

ANSYS helps customers address this problem through virtual system prototyping (the Simplorer product) where a prototype is essentially built on the computer.

Financial Update

Maria Shields, CFO & VP, Finance and Administration

Overview

ANSYS once again performed well in 2013 with solid growth in revenue, cash flow, and EPS. The outlook for 2014 is for continued constant currency non-GAAP revenue growth of 8% to 11%, strong margins and cash flow, high rates of recurring revenue, and continued growth in deferred revenue and backlog.

ANSYS sees favorable market trends and much opportunity ahead, and is making long-term investments to continue to position the Company to realize this opportunity. Investments are in talent, technology, and infrastructure, with capital being deployed both to continue driving organic growth and for strategic acquisitions.

Context

ANSYS CFO Maria Shields reiterated ANSYS' 2013 financial results and explained the key drivers of these results. She also reiterated ANSYS' outlook for 2014, outlined the key assumptions, and described ANSYS' capital deployment plans.

Key Takeaways

2013 was another solid year of growth for ANSYS.

ANSYS' financial results are the result of investing in great people, who deliver great technology to a growing simulation market.

“The financial performance of the Company is the outcome of everything we’ve invested in and focused on during the course of the past year.”

– Maria Shields

These results include 9% constant currency revenue growth, a 12% increase in EPS, continued very strong margins, and \$333 million in cash flow from operations.

ANSYS FY 2013 Financial Highlights

• Non-GAAP Revenue*	\$865.9M	+ 9% (CC)
• Non-GAAP Diluted EPS**	\$3.27/share	+ 12%
• Non-GAAP Gross Operating Margin*		88%
• Non-GAAP Operating Margin*		49%
• Recurring Revenue		70%
• Cash Flows from Operations	\$ 333.0M	

* Non-GAAP generally excludes the income statement effects of acquisition accounting adjustments to deferred revenue, stock-based compensation charges, acquisition-related amortization and transaction costs related to acquisitions.

** The Company's results include approximately \$11.0 million of incremental tax benefits, or \$0.12 per diluted share, related to the elimination of uncertainty regarding refund claims filed in connection with previously filed tax returns.

Important aspects of ANSYS' model that contributed to this success include:

- **Diversification.** ANSYS' revenue is almost equally divided with one-third coming from North America, one-third from Europe, and one-third from GIA. ANSYS continues to invest across the globe to take advantage of being in all geographies where customers are growing and where potential customers will be over time.

Equally important is ANSYS' end market diversity. No single end market that ANSYS serves accounts for more than 20% of ANSYS' total sales. This diversity among a wide range of vertical markets helps with year-to-year cyclicalities.

- **Recurring revenues.** In 2013, 70% of ANSYS' revenue came from the Company's recurring revenue base; this is up from 69% in 2012 and 68% in 2011. The recurring revenue stream comes from maintenance and leases. Recurring revenue provides visibility into the business and predictability.

“Imagine going into any year or any quarter with [this base of recurring revenue]. It gives us incredible predictability and visibility into the business ahead of us.”

– Maria Shields

- **Deferred revenue and backlog.** In 2013, ANSYS built up deferred revenue and backlog to an all-time high level of more than \$409.5 million. This also provides incredible visibility into the business.

Market trends driving innovation will increase the use of simulation, and will drive ANSYS' business.

Market trends are driving innovation in ANSYS' customer base. These trends include the growing demand for smart products, greater use of high-performance computing (HPC), big data, and the industrial internet. These trends will increase the need for the use of simulation over the next decade.

For ANSYS, this will mean growth in the number of simulation users, in the density of users among current customers, and in the intensity of usage, as customers will increase their use of HPC and will demand even great scalability.

ANSYS projects continued growth in 2014.

ANSYS' outlook for 2014 continues to show solid growth.

Important aspects of this (non-GAAP) outlook include:

- **Revenue.** The outlook is for 8% to 11% constant currency non-GAAP revenue growth, which translates into revenue of \$939 to

\$969 million. The outlook for Q1 is non-GAAP revenue in the range of \$212 to \$220 million.

- **Margins.** ANSYS anticipates continued strong gross margins of 87% to 88% and non-GAAP operating margins of 47% to 48%. These margins enable ANSYS to continue to invest in the business, while also providing for earnings growth.
- **EPS.** With a tax rate of around 30%, ANSYS' non-GAAP EPS target for 2014 is \$3.25 to \$3.37, and the outlook for Q1 is \$0.73 to \$0.76.

FY 2014 Non-GAAP Outlook

Revenue*	\$939 - \$969 million
Gross Margin*	87% - 88%
R&D*	~ 16%
Operating Margin*	47% - 48%
Tax Rate	30%
EPS*	\$3.25 - \$3.37

* Non-GAAP excludes the income statement effects of acquisition accounting adjustments to deferred revenue, stock-based compensation charges, acquisition-related amortization and transaction expenses related to acquisitions.

Key assumptions on which this outlook is based, including currency assumptions shared during the presentation, include:

- **Economic improvement.** ANSYS sees a modest improvement in the macroeconomic environment, largely in the second half of the year.
- **Continued investment.** Based on the opportunity that exists, ANSYS plans to continue to invest. This includes investments in talent—which is what truly differentiates ANSYS, investments in expanding the Company's geographic footprint, and investments in infrastructure to support the growth of the business. This infrastructure includes, for the first time in two decades, investment in a new corporate headquarters, which ANSYS will move to in Q4 2014.
- **Revenue composition.** ANSYS is assuming a 60/40% split between licenses, and maintenance and services. ANSYS also anticipates continuation of a strong base of recurring revenue, representing 68% to 69% of revenue.

ANSYS will continue to deploy capital to drive organic growth and for strategic acquisitions.

In terms of capital deployment, to take advantage of the market opportunity that exists, ANSYS will continue to invest in driving the organic growth of the business, with an investment of around 16% of revenue in R&D.

In addition, consistent with ANSYS' strategy over the past decade, ANSYS will continue to provide value to stockholders by deploying capital for strategic acquisitions. Common elements of ANSYS' acquisitions have been and will continue to be: acquiring technologies that fit with ANSYS' roadmap, adding to ANSYS' talent, providing synergy with ANSYS' customer base and global channel, and being financially accretive within a reasonable time frame.

ANSYS will also use capital for opportunistic stock repurchases.

“We’ve got many elements of our business model which uniquely position us to continue to grow, take advantage of the opportunity ahead of us, and deliver top- and bottom-line growth to our stockholders.”

– Maria Shields

Questions and Answers

Overview

Members of ANSYS' management team responded to questions on a broad range of topics including the Company's products; the simulation market; factors affecting adoption; and ANSYS' business model, financials, and growth.

Questions & Answers

ANSYS Products

Q: How much room is there to improve ease of use?

A: Improving ease of use is core to everything that ANSYS does, and improving ease of use will never end. But, in discussing ease of use, it is important to realize that it means different things to different users and different organizations. Some people associate ease of use with the user interface, but for others, automation is a way to make use easier, and some think of ease of use as the amount of effort required to get to a specific level of accuracy. The definition tends to vary by customer.

Q: Will EKM be a business in its own right?

A: There will be components of EKM that will be embedded in every product that ANSYS offers. In addition, EKM will be offered as a stand-alone product in the marketplace.

Q: How does ANSYS think of services?

A: ANSYS is not in the service, body-for-hire business. However, service can be a very good element of helping accelerate adoption and helping customers through growing pains. ANSYS has the ability to share best practices accumulated through tens of thousands of customers, and leverage these best practices to minimize the number of false starts and bumps in the road. Also, because no other entity on the planet has a big cadre of talented people who are experts on ANSYS technology and can deal with process issues, ANSYS must provide services to help customers build the discipline and repeatable processes they need.

Q: What kind of ecosystem is ANSYS creating for applications? Will ANSYS have an app store? Where is ANSYS in this journey?

A: ANSYS has a toolkit called ACT that allows users to build applets and applications. Customers, channel partners, consultants, and entrepreneurs are already using this toolkit to build custom applications, and the uptake has been faster than anticipated. In many instances, organizations are creating applications to automate processes. Applications built by one party could have value and cut or eliminate the development time for another party. ANSYS is considering ways for the builders of these applications to share and monetize them, and

in doing so to expand the ANSYS ecosystem. But making applications broadly available has complexities, such as certification and maintenance. ANSYS is still contemplating exactly how to move forward in the best way, with activity in this area certain to evolve.

Q: Does it make sense for ANSYS to have a cloud offering to drive adoption?

A: ANSYS already has capabilities for organizations to have private clouds, and a private cloud can access computing capacity of a public cloud. This has been available for a number of years, has tended to be used sporadically and as part of a testing environment, and hasn't grown much.

It is important to realize that even as ANSYS has become more user friendly, ANSYS' products are not something simple or intuitive like Microsoft Word. ANSYS makes complex products that require user training. Setting up a cloud for ANSYS would be complex and expensive. There are security concerns, bandwidth considerations (due to massive amounts of information), infrastructure requirements, and more. That said, ANSYS' philosophy has been to have a commercial and billing mechanism in place and to have an architecture that is agnostic and that lets customers decide how to access and use the products.

Adoption

Q: Help us understand the building blocks for getting to a TAM (total addressable market) of \$20 billion?

A: ANSYS has looked at what the number of users could be in five to seven years based on the normal gestation, as well as new users, that could be brought in by greater automation. In terms of density, the TAM assumption is based on greater density of usage among organizations that already have multifunctional teams using multiphysics; this does not assume that organizations fundamentally change how they use simulation. Currently, only about one-third of ANSYS customers use multiphysics, which provides much upside potential. On HPC, ANSYS has looked at growth trends. Even though this is one of ANSYS' fastest growing product lines, markedly less than 10% of ANSYS customers have adopted HPC.

In combination, projected growth rates related to number of users, density, and intensity lead ANSYS to believe that the TAM could potentially grow to \$20 billion. Also, there are many other processes within companies related to product development where simulation could be used, like quality management, system design, refinement management, change management, and more.

Q: Do leading-edge customers use simulation orders of magnitude more than other customers?

A: Yes. There are different maturity levels in terms of the use of simulation, with some users being far more advanced than others. Use varies by industry and within industries. It also varies by country, with the United States being more of an early adopter of simulation. One of ANSYS' services offerings (STP Assessment) involves identifying where customers are in the maturity curve, and helping them move quickly up this curve. ANSYS is able to share what leading-edge customers are doing to be great at product development.

Q: How will ANSYS close the gap between non-users and potential users?

A: ANSYS is working to remove the barriers that keep engineers who are capable of using simulation from using it. These barriers include:

- **Usability.** The idea is to improve ANSYS so that any engineer should be able to use it.
- **Usage scenarios.** Historically, engineering has been insular, with engineers working in silos. But going forward, companies will want integration and coordination as they look to simulate entire systems. By creating a single environment for system simulation, ANSYS will remove a barrier to adoption.
- **Accessibility.** ANSYS is working to make its tools even more accessible, which will change the paradigm for how they are used. This includes a new interface, greater mobile access, and tools that facilitate collaboration.

Adoption will also increase as the product development processes within organizations change and organizations adopt entirely new, holistic ways of using ANSYS across the organization, following pilots, refinement, and customization.

In addition, the gap between non-users and potential users will be narrowed as best practices are codified and shared. Templates exist, and more are being created, which automate the workflow and made it easier and more compelling to adopt simulation.

Business Model & Growth Rate

Q: This year you highlighted users as a growth driver. Why is this?

A: This is because of the potential that we see to make simulation accessible to a far greater number of users. Automation of simulation compresses a process but also makes it much easier and more accessible to more potential users. It means that a different level of user can use simulation. Automation, ease of use, and customization open ANSYS up to a far broader range of users. More people can comprehend simulation and companies are more confident of the results.

Q: What do you think is the long-term future of perpetual licenses?

A: Perpetual licenses won't go away anytime soon because certain companies prefer this model, but the types of licenses offered will evolve over time as customers' preferences change. What matters most is that ANSYS' business model is to allow customers to access the technology in whatever way is feasible for them given their situation and cash flow constraints.

Q: ANSYS has continually reiterated that the business has the potential for consistent double-digit growth, but the 2014 outlook only calls for high single-digit growth. What needs to happen to achieve double-digit growth?

A: The opportunity exists for ANSYS to be a double-digit growth business, and in the outlook for 2014, the high end of the range is double-digit growth. This is where ANSYS wants to drive the business, which is reflected in the Company's investments, particularly in sales people and R&D. The reality is there is an inherent latency in the Company's investments. ANSYS has made and will continue to make long-term investments, but these investments can take time to reach their full potential. Also, growth has been affected by the results in Asia, particularly Japan.

Q: Having hit a speed bump in Asia, what are some of the changes that ANSYS has made there?

A: Korea and some other markets in Asia have remained strong for ANSYS, but like many other companies, ANSYS hit a mild speed bump in Asia. One challenge unique to ANSYS has been in Japan, where status quo engineering processes are entrenched in some Japanese organizations, which have been a bit slower to adopt collaboration and use all of the capabilities that ANSYS brings. To improve the results in this area, ANSYS has added new sales management in Asia Pacific.

Biographies

Walid Abu-Hadba joined ANSYS in April 2013 in the newly created position of Chief Product Officer. He brings extensive experience to ANSYS, having worked in a variety of progressively challenging management roles within Microsoft for the past twenty-one years, most recently as Corporate Vice President, Developer and Platform Evangelism. In addition, Abu-Hadba spent time at Microsoft as Vice President, Specialist Sales, Enterprise and Partner Group; General Manager, Asia Pacific and Japan Technology Center; General Manager, Global Technical Center; and Practice Manager, Advanced Technology Group. He is a graduate of Arizona State University with a Bachelor of Science Degree in Systems Engineering.

James E. Cashman III has been our president since 1999 and our chief executive officer since February 2000. Mr. Cashman served as our senior vice president of operations upon joining the Company in September 1997 until April 1999. Prior to joining the Company, Mr. Cashman was vice president of marketing and international operations at PAR Technology Corporation, a computer software and hardware company involved in transaction processing, from 1995 to September 1997. From 1992 to 1994, he was vice president of product development and marketing at Metaphase Technology, Inc., a product data management company, which was a joint venture of Structural Dynamics Research Corporation and Control Data Systems. Prior to joining Metaphase, Mr. Cashman was employed by Structural Dynamics Research Corporation, a computer aided design company, from 1976 to 1992, in a number of sales and technical positions. Mr. Cashman is also Chairman of the Pittsburgh Technology Council and a past Board member of the Carnegie Museum of Natural History. Mr. Cashman's experience includes senior responsibilities in technology, product and market strategy management, as well as sales, operational and international functions prior to his general management role with the Company for the past 15 years. His long-standing vision and well-diversified background are key components of the Company's board structure and effectiveness.

Matt Commens is the Lead Product Manager for HFSS at ANSYS, Inc. He joined ANSYS in 2001 as an application engineer specializing in high frequency electromagnetic simulations. Prior to joining ANSYS, he worked as an antenna designer and simulation manager at Rangestar Wireless in Aptos, CA and as a NMR probe designer at Varian Inc. in Palo Alto, CA. He holds five patents in the areas of NMR coil and antenna design and holds a B.S. in Physics from University of Missouri-Rolla and a Ph.D. in physics from Washington University in St. Louis, MO.

Sameer Kher is an R&D Manager in the Systems business and leads development for the ANSYS Simplorer product line. He joined ANSYS in 2005 and has a BE in Electronics from the University of Pune, and MS in Computer Engineering from the University of Cincinnati and an MBA from Carnegie Mellon University. Prior to joining ANSYS, he has worked as a Systems Engineer at WIPRO Technologies.

Aveek Sarkar became part of ANSYS through the Apache Design acquisition in 2011. He joined Apache in 2003 and worked on various roles and responsibilities including his current position as a Vice-President of Customer Support and Technology Evangelism. Prior to joining Apache, Mr. Sarkar worked at Sun Microsystems, Cadence and National Semiconductor on various chip design roles. Mr. Sarkar holds a B. Tech from the Indian Institute of Technology, Kanpur, a MSEE from Oregon State University, and a MBA from Santa Clara University.

Siddharth Shah is the Lead Product Manager for Mechanical Products at ANSYS. He has been at ANSYS since 2001, and has experience as a Technical Support Engineer helping our customers, and in assisting Sales as an Application Engineer before moving into Product Development. He holds a Master's Degree in Computational Mechanics from the Carnegie Mellon University.

Maria T. Shields has been our Chief Financial Officer and Vice President, Finance and Administration since September 1998. Previously, she served as our Corporate Controller since September 1994 and as a Vice President since May 1998. Prior to joining the Company, Ms. Shields held various positions as a CPA with Deloitte and Touche LLP, including that of Audit Manager. Ms. Shields serves as Director of the First National Bank Pittsburgh Community Board and the Washington County Chamber of Commerce, and as a member of the Board of Trustees of the Anglican Diocese of Pittsburgh. Ms. Shields holds a Bachelor of Science degree in Accounting from Pennsylvania State University.