Virginia M. Rometty
Chairman, President and
Chief Executive Officer

Dear
IBM Investor:

It can be hard to assess the progress of a major transformation from a single year's results. And yet, when you look back after a few years, it becomes clear just how much has changed.

Before I offer a broader perspective, let me describe how your company performed in 2016. We made substantial progress last year:

- We achieved operating earnings per share of $13.59 and free cash flow of $11.6 billion.
- We invested heavily for our long-term competitiveness—nearly $6 billion in research and development, nearly $4 billion in capital expenditures and nearly $6 billion to make 15 acquisitions, adding to our capabilities in the high-growth areas of cognitive, cloud and security.
- We returned $8.8 billion to you, our shareholders, including dividends of $5.3 billion and $3.5 billion in gross share repurchases. We raised our dividend for the 21st consecutive year—and it was IBM's 101st straight year of providing one. We are proud of both milestones.
- IBM's technical community outdid itself. For the 24th year in a row, IBM led in U.S. patents earned, becoming the first company to break the 8,000 mark in one year.
- All of this and more is due to the work and passion of 380,000 IBMers. They are our greatest competitive advantage and the most important reason for confidence in IBM's prospects in the years ahead.

This is why it's so encouraging that employee engagement scores continue to rise year after year.

But understanding IBM at the start of 2017 requires a longer view—in particular, remembering why we embarked on this journey of transformation. It had nothing to do with economic downturn or fixing something broken. Rather, our experience over more than a century has trained us to be vigilant. We began to see that the IT industry would radically reorder, driven by the phenomenon of data, the maturation of cloud computing and the emergence of what many call artificial intelligence or AI. We were convinced that the source of value—for our clients and for our owners—would shift, and that the convergence of these innovations would usher in a new era in both technology and business.

We didn't wait. We got out of commoditizing businesses—trimming $8 billion from our top line (and nothing from our bottom line) over the past five years. We redoubled our efforts to reinvent our core hardware, software and services franchises, while investing to create new ones—in cloud, data, cognitive, security and the other businesses that comprise our strategic imperatives. We did this not simply to manage a portfolio of businesses, but to build the integrated capability that our clients would need for the new era.

While our transformation continues, a strong foundation is now in place.

Our strategic imperatives have reached critical mass. At $33 billion, they now contribute 41 percent of IBM's revenue. With double-digit growth, we're on pace to achieve our goal of growing these businesses to $40 billion by 2018. Most importantly, within these businesses we have built unique and powerful platforms with Watson and the IBM Cloud:

- Watson has become the AI platform for business. I will have much more to say about Watson, but just consider that, through our clients and ecosystem partners, we expect Watson to touch one billion people this year.
- IBM is now the global leader in cloud for the enterprise. In 2016, our cloud business grew an outstanding 35 percent, to $13.7 billion (adjusted for the effects of currency, as are all revenue growth numbers in this letter). Cloud by itself is now more than 17 percent of our total revenues. Our as-a-Service exit run rate was $8.6 billion, up 63 percent.

I am so proud of the teams who have incubated and scaled these businesses. They are the IBM investor's "unicorns." At the same time, we have transformed much of IBM's core—the other 59 percent of our company.

Global Technology Services (GTS) is the market leader in IT services. The next time you use your credit or debit card, take out an insurance policy, board a plane or drive your car, chances are you are being

touched by GTS. Their services run the infrastructure that powers 60 percent of the banking industry's daily card transactions, 61 percent of the automobile industry's production of passenger vehicles and nearly half of mobile connections worldwide. And while our GTS team is superb at managing infrastructure, they are innovators at heart. In recent years, they have built strong capabilities in hybrid cloud and are applying automation and Watson wherever and as fast as they can. This unique combination of innovation and trust enables GTS to grow signings and revenue, and win new clients.

Global Business Services continues to reinvent itself and is growing robustly where we have created new practices. Last year, our cloud practice was up more than 60 percent, mobile more than 40 percent and analytics 10 percent. That's good—though not enough yet to offset declines in some traditional practices, such as enterprise resource planning. But I remain confident in our ability to transform this business, and we will continue to invest in these new areas. For example, we created a new Watson IoT (Internet of Things) consulting practice that will include 1,500 consultants, data scientists and security experts.

When it comes to our ability to reinvent large, significant businesses, I must say a word about the mainframe. Installed mainframe capacity has increased 20-fold in the past 20 years—and is still growing, as you saw in our fourth-quarter 2016 results. Why do clients love the mainframe? Because no other system can do what it can do, and

because our mainframe team continues to create new capabilities for new workloads. Our latest mainframe runs Linux, processes mobile payments instantly, supports hybrid clouds and is becoming preferred as the most secure platform for the important new technology blockchain. This is why I call this part of IBM our youngest oldest business.

Leading a new era

With Watson's victory on *Jeopardy!* in 2011, IBM ended the latest so-called "AI winter" and led our industry and the world into the cognitive era. Today, we're no longer alone: The land rush into AI is on—including a lot of hype. But we expect to maintain and extend our lead in cognitive business, because we uniquely serve the needs of the enterprise.

Enterprises need cognitive solutions that turn vast amounts of data into insights and competitive advantage. They need access to a cloud platform not only for IT capability, but for speed and agility. Its architecture must be hybrid, spanning both public and private clouds, because businesses will want to leverage their existing investments in applications, IT infrastructure and, most of all, their data. And they need a partner they trust, who understands their industry and process flows, and whose platform is secure, scalable, global in scope and local in presence.

IBM provides this powerful AI cloud platform, and we are using it to build industry-based solutions to real-world

problems. We are creating domain-specific datasets that we either own or partner to access, and we're applying our deep industry expertise to build vertical solutions and to train Watson in specific professional fields.

In short, to win in the cognitive era, data matters. Client control of their data and insights matters. Public, hybrid and enterprise-strength cloud matters. Industry expertise matters. Trust and security matter. That is what sets apart Watson on the IBM Cloud—and why thousands of clients, partners and IBM itself are building powerful solutions and businesses on it:

- IBM Watson Health leverages broad datasets, including 100 million electronic health records, 200 million healthcare claims records and millions of images. You also need clinical data, payer data and images, all of which are created and owned by clients. (Consider that an estimated 80 percent of the world's data cannot be accessed by search engines.) We capture and integrate all this data, because publicly available data alone is not sufficient for work like transforming healthcare or making advances in cancer. What's more, you need deep domain expertise. Watson Health's 7,000 employees include doctors, nurses, health policy experts and data scientists. Finally, we provide a quality management system that is HIPAA-compliant. Only IBM Watson Health offers all of this capability.

IBM is already essential to global business...

IBM has helped design, build and run the systems that underpin global business.

97% of the world's **largest banks** use IBM products to run their systems

90% of **global credit card transactions** are processed on IBM mainframes

80% of **global retailers** are powered by IBM retail solutions

80% of the world's **travel reservations** are processed on IBM systems

83% of the world's largest **communications service providers** are IBM clients

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As we build what modern business requires...

We have invested in and built the capabilities—cloud, analytics, cognitive, mobile, security—to power the emerging needs of modern business. Our strategic imperatives grew by 14 percent adjusting for currency, generating $33 billion in revenue last year, representing 41 percent of our total revenue.

Strategic Imperatives Revenue

$25B — 2014

$29B — 2015

$33B — 2016

Our growth is fueled by innovation...

Our ability to create high value is powered by the prolific inventors of IBM. For the 24th year in a row, IBM led in U.S. patents earned. In 2016, we were the first company ever to be granted more than 8,000 U.S. patents in one year.

8,088 patents in 2016
97,040 total patents since 1993

1993 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 2016

Enabling us to generate high returns.

Our model allows us to continuously invest in our growth while simultaneously returning value to our shareholders.

$15B invested in 2016

Across research and development, capital expenditures, and acquisitions

$8.8B returned in 2016

Dividends: $5.3B
Gross Share Repurchase: $3.5B

- IBM Watson IoT has similar unique advantages. The number of new clients and developers using our platform more than doubled last year. Our new global Watson IoT center in Munich opened in 2017, including the first-ever Cognitive IoT Collaboratories, where clients and IBMers work together to drive innovation in automotive, electronics, manufacturing, healthcare and insurance.
- Late last year, we launched Watson Financial Services. And because top industry specialists are needed to train Watson in the risk management requirements of financial services, we acquired Promontory Financial Group, a leader in regulatory compliance and risk management consulting.

IBM is changing industries around the world. Watson on the IBM Cloud is available to more than 200 million consumers to answer questions, find what they need online and make recommendations. Half a million students can choose courses and master a subject with Watson, which also helps teachers address each student's unique learning needs. IBM Security—which monitors 35 billion security events a day for 12,000 clients spanning 133 countries—launched the world's first commercial "cyber range," where clients can simulate and prepare for real-world attacks and draw on the power of Watson to fight cybercrime. With Watson, buildings are reducing CO_2 emissions by 10 million tons a year; businesses are accelerating hiring cycles by 75 percent; and airlines are improving maintenance efficiency by 80 percent.

It is also becoming clear that as IT moves to the cloud, transactions must be trusted by all parties involved. That is why we are building a complete blockchain platform. Blockchain brings together shared ledgers with smart contracts to allow the secure transfer of any asset—whether a physical asset like a shipping container, a financial asset like a bond or a digital asset like music—across any business network. Blockchain will do for trusted transactions what the Internet did for information.

IBM is already working with more than 400 clients to pioneer blockchain for business. They include clients who manage foreign exchange settlements, smart contracts, identity management and trade finance—but the potential goes well beyond financial services. For instance, we are collaborating with Walmart to ensure transparency in the way food is tracked, transported and sold to consumers across China and the United States. And Everledger is using a cloud-based blockchain to track the provenance of diamonds and other high-value goods as they move through the supply chain.

This is the real world of cognitive business. Unlike the AI we see in movies and pop culture—which depict machines achieving consciousness or independent agency—the true promise of this revolutionary technology comes not from replacing but from augmenting human intelligence. It comes from embedding cognitive capability in the processes, systems, products and services that permeate business, society and our daily lives.

New roads and new rules for a cognitive future

As 2017 begins, our industry stands at an inflection point. The next few years will be critical for information technology providers, as businesses and institutions around the world will make key architectural decisions—about cloud, about data, about AI.

IBM is well positioned to help clients make wise choices—and to lead our competition. We take seriously our responsibility to ensure that new technology is adopted in ways that are both ethical and enduring—never more essential than in times of rapid economic and societal change. We will continue to engage across our industry and society, and to advocate for a business and policy environment that is open, inclusive, global and equitable. And we will do more than advocate. We will innovate.

An example of such innovation is IBM's "Principles for Transparency and Trust in the Cognitive Era," which we issued in January of this year. Its main tenets:

- We believe AI's purpose is to augment human intelligence.
- We will be transparent about when and where AI is being applied, and about the data and training that went into its recommendations.
- We believe our clients' data and insights are theirs.
- We are committed to helping students, workers and citizens acquire the skills to

" IBM is now the global leader in cloud for the enterprise."

engage safely, securely and effectively with cognitive systems, and to do the new kinds of work that will emerge in a cognitive economy.

These principles will be our touchstone for everything we do to build this new world. We will practice them with our clients, and we believe they can form an important foundation for business and society at large.

A world with Watson

Last October, IBM hosted more than 15,000 entrepreneurs, innovators and other leaders from business, government, healthcare and civil society who are working with Watson to transform their industries and sectors. Their work showed that Watson has, indeed, entered the world at scale.

But this signature gathering did something more than showcase the reality and reach of Watson. It also presented a vision of the world with Watson. In example after example, we saw a world that is healthier, more secure, less wasteful, more productive, more personalized, more sustainable.

That is a world my colleagues and I want to live in. Indeed, this is, in the end, why we are IBMers—and why we remain so deeply committed to the hopeful future that is now within our grasp.

As IBM has done throughout its history, we remain dedicated to leading the world into a more prosperous and progressive future; to

creating a world that is fairer, more diverse, more tolerant, more just; and to creating long-term value for you. Our strategy to reinvent our company is being validated by our clients around the world, and has the support of our Board of Directors. I'm grateful to them and to you, our owners, for your continued support. Most of all, I am deeply proud of the IBM team for bringing us here and for what they do every day for our great company.

Ginni Rometty

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