S&P Global
Market Intelligence

# Dassault Systèmes SE ENXTPA:DSY

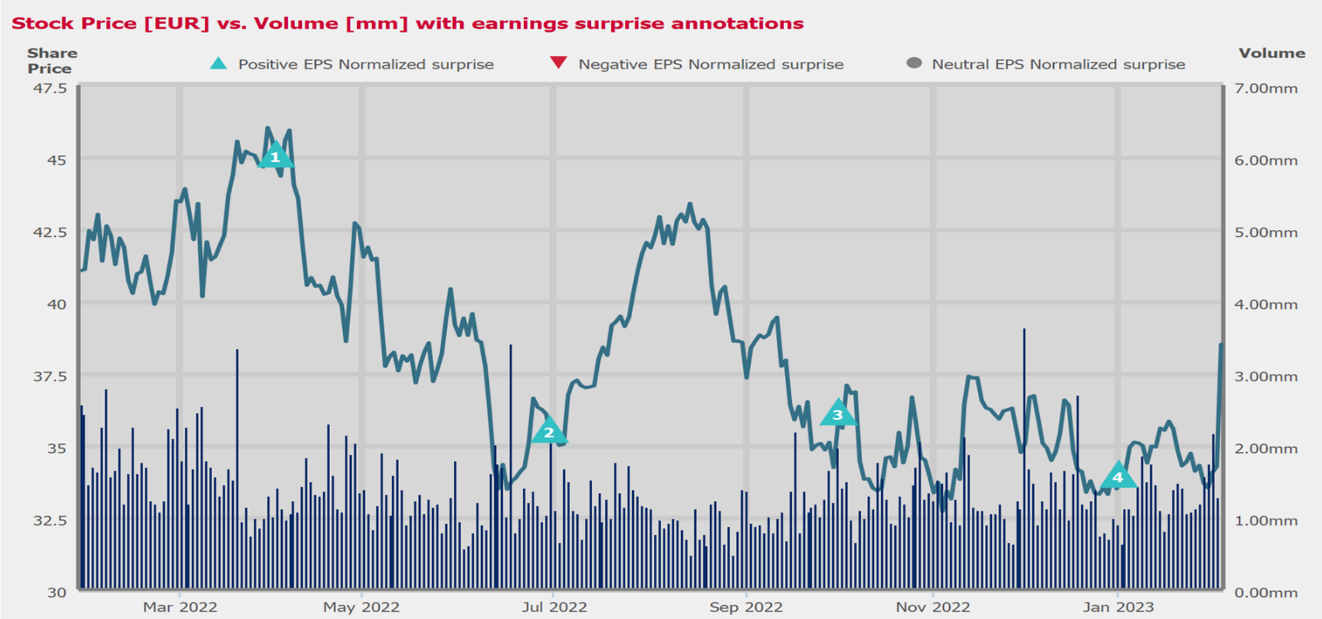
# FQ4 2022 Earnings Call Transcripts

## Thursday, February 2, 2023 9:00 AM GMT

## S&P Global Market Intelligence Estimates

| | -FQ4 2022- | | | -FQ1 2023- | -FY 2022- | | | -FY 2023- |
|---|---|---|---|---|---|---|---|---|
| | CONSENSUS | ACTUAL | SURPRISE | CONSENSUS | CONSENSUS | ACTUAL | SURPRISE | CONSENSUS |
| **EPS Normalized** | 0.33 | 0.34 | ▲3.03 | 0.28 | 1.13 | 1.13 | ●0.00 | 1.19 |
| **Revenue (mm)** | 1560.51 | 1583.90 | ▲1.50 | 1458.88 | 5636.64 | 5665.50 | ▲0.51 | 6032.97 |

Currency: EUR
Consensus as of Feb-02-2023 8:12 PM GMT




**- EPS NORMALIZED -**

| | CONSENSUS | ACTUAL | SURPRISE |
|---|---|---|---|
| **FQ1 2022** | 0.24 | 0.27 | ▲1 12.50 % |
| **FQ2 2022** | 0.25 | 0.26 | ▲2 4.00 % |
| **FQ3 2022** | 0.25 | 0.26 | ▲3 4.00 % |
| **FQ4 2022** | 0.33 | 0.34 | ▲4 3.03 % |

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# Call Participants

### EXECUTIVES

**Beatrix Martinez**
*Vice President of Investor Relations*

**Bernard S. Charles**
*Chairman & CEO*

**Pascal Daloz**
*Deputy CEO, COO & Director*

**Rouven Bergmann**
*CFO & Executive VP*

### ANALYSTS

**Frederic Emile Alfred Boulan**
*BofA Securities, Research Division*

**James Arthur Goodman**
*Barclays Bank PLC, Research Division*

**Laurent Daure**
*Kepler Cheuvreux, Research Division*

**Nay Soe Naing**
*Joh. Berenberg, Gossler & Co. KG, Research Division*

**Toby Ogg**
*JPMorgan Chase & Co, Research Division*

# Presentation

**Beatrix Martinez**
*Vice President of Investor Relations*

Good morning, and thank you for joining us on our fourth quarter 2022 presentation. Who will be with us today are: Bernard Charles, Chairman of the Board and Chief Executive Officer; Pascal Daloz, Digital Chief Executive Officer and Chief Operating Officer; and Rouven Bergmann, Chief Financial Officer.

I remind you that Dassault Systèmes' results are prepared in accordance with IFRS. Most of the financial figures discussed on this conference call are on a non-IFRS basis, with revenue growth rates in constant currency unless otherwise noted.

For an understanding of the differences between the IFRS and the non-IFRS, please see the reconciliation tables included in our press release.

Some of our comments on this call contain forward-looking statements that could differ materially from actual results. Please refer to today's press release and the Risk Factors section of our 2021 Universal Registration Document.

All earnings materials are available on our website.

I would like now to hand over to Bernard Charles.

**Bernard S. Charles**
*Chairman & CEO*

Thank you, Beatrix. Good morning, everyone. It's a great pleasure to see you for the -- again, for this finally physical after a period of being disconnected or connected only so with your screen. A year ago, when we started the year, we were quite shy on trying to find the right perspective. We were going out from -- coming out from COVID. And then just a few weeks later, we have what you know with the war. And to sum it up, we updated our guidance Q1. Q2, we again updated it. Q3 was soft. I know a few of you were a little bit nervous with it, and we are demonstrating that Q4 was strong with a very strong dynamic.

So I think overall, 2022, while it's a special year, marked a certain number of milestones that we want to cover with you today. And basically, you have seen the revenue. I know you know the numbers by heart. So you see that the revenue is up 9%.

There are a lot of interesting things to be evaluated. You will notice that both Pascal and Rouven are going to present to you a new structure about how we publish numbers compatible with what we have always been doing, but providing further detail to really promote the idea that yes, subscription is important for us. And it is and it's moving in the right direction. So you will see more detail in a minute, but revenue was up, the EPS is a strong 19% and the cloud dynamic is also very good, up 22%. And we are continuing to invest in the future.

We are in some way counter cycle as compared to tech. We have been hiring. That explains also the softness of our little impact on the margin for 2023. But believe me, we are proud to do that because we know we have levers for the future. And this is also going to be commented.

Now the positioning of the company, which for me is the most important thing. First of all, I'm pleased with the ads that Meta did. They are doing good ads for us. Virtual twin experience and they are spending time with -- spending money with ads, and we are doing the job. Virtual twin experience is really what our customers are doing. They are doing virtual twins. You know it. Well, airplane, satellites, cars, human body, infrastructure, high tech. Experience means can you simulate it. That's the experience. Can you stimulate what's going to happen? So we have never been as close as we are to the core of transforming all industries we serve. That's the number one. And we're going to generalize those approach and practices in the years to come for the long term.

The second remark is the capitalization of knowledge and know-how. You have heard about the data economy. We are focusing on the knowledge economy. It's a different thing. When you do composites, when you ensure that a therapeutic will work, it's not data; it's knowledge and know-how.

The third aspect is sovereignty. And I will make it short. We see 3 types of cloud: international cloud; cloud within a scope where financially and legally, there is a consistency; and third, the integrated cloud for highly sensitive programs. Three level of cloud, I described them not from the IT standpoint but from the usage standpoint, which is the differentiation that we are going to do, and that's why sovereignty is important for us.

On game changer, because we move and we think all our clients are moving from document-based operations to virtualization of their operations.

On the governance, nothing changed really from that standpoint, no surprises, but I will give you a few insights if you are interested.

So we have never been more excited than today with the future of putting science on [ getting ] science, multi-physics science to harmonize product, nature and life. We have proof points on that. Many proof points across all industries. How do you do battery that you will be able to recycle? How do you create new mobilities to optimize [ in ] early, being connected, safe drive, all those kind of things, same for satellite, same for aerospace.

In life science, by the way, 2022 is a milestone. We invested big, concluded MEDIDATA in November 2019. For the first time in our history, that industry is going to be #1 before aerospace and defense and mobility, which means that it's relevant, it's needed and there is a perspective for one.

So I think we will talk on that purpose. I will give you just one teaser so you come back in June for the Capital Market Day. What's next? This is not a marketing presentation. This is what we have been doing for the last 40 years. Unflattening the world, creating digital mock up, creating life cycle management infrastructure, then saying we can do this with a platform, the 3DEXPERIENCE platform, so platformization of our industry solutions. We're committed to say we're going to apply it to life now, and we are going to do the virtual twin of a human body and we will simulate it, the experience side. This is up on established of proof points.

What's next? Well, we want to add to what we call this experience economy, one thing, which is the capacity for our clients to really establish circularity in what they do, meaning to really create a sustainable infrastructure for them from a circularity standpoint.

This is very hard to do because it's not about taking an old car and recycling it; it's about taking the material, the basic materials and recycling them. It's far more complex, which call, that's my statement today, for a metamorphosis of the entire industry. It's not going to be the extrapolation of it, just doing more; going to be a significant change and the similarity with life is quite interesting, one to witness, most to be discussed in June.

With that, the core of Dassault Systèmes is quite simple to summarize. Science-based company, multi-physic and creating virtual universes that help to do a better interpretation of the reality. That's what we do in clinical trials. That's how you make satellites. That's how we are going to do new batteries. And that's unique, connecting the virtual with the real. And the value of the virtual is becoming a higher value than the value of the physical thing, and it's happening in our sector, all the sectors we serve.

So how are we going to approach it? You have been familiar with the focus that we have on what we call spiral of innovation: imaging, create, produce, deliver. We have applied this systematically for all sectors we serve. That's here for you, the left part of it.

We want to apply that same discipline to things in operation. I use a car. It's an electrical vehicle. I want my profile as a driver to be assessed and I go on to get a lower price for my insurance because I am a good driver even though I get some tickets one time, two time.

So -- but no, I shouldn't. So that's things in operation. It's happening in life science. It's happening everywhere in the economy. You have seen the announcement at CES. You have seen many, many things. So we will apply the vehicle to experience, learn, value and regenerate the solution on the other side, which is the life cycle of it, and we call this the connection. Proof points today when we do clinical trials, it's on the right side.

What's happening to this therapeutic on this group of fashion, that's not virtual simulation; that's what's happening, observation of the world.

So our solutions are going to massively evolve from the left to the right. And the second thing, we collect data to really build knowledge and know-how. More to be discussed [indiscernible], and I give the floor to my friend, Pascal, for the business operation. No surprises frankly speaking. You know everything. Oh no, so one more thing.

We've been frustrated with the way ESG is evaluated. I don't know if you're happy, but we are not so happy. I mean it's ridiculous parameters. We want this to become science-based. We are a number of science-based initiatives. We want to put scientific data for ESG. Many investors recognize that some of those index are not good index because there is not enough rationalization. There is a fight we want to have, which is to compare footprint, the negative aspect of running your own operation with the unprint, what you bring to do society. Footprint, unprint.

It cannot be just an absolute number. We are pleased to see that the S&P, who has done an evaluation, I think they have done a very strong rationalization, interviews. They even interview our Board Members. They look at our battery. So they have not done a tech's analysis of our annual report, but done a comprehensive analysis. And I think those factors should be new factors for investors, and I think reaching 84 is, from what I've understood, a very good ranking. More detail can be discussed on that topic.

But we are very proud of that, and we will continue, contribute to do it with our clients because the key point that they understood is that we are going to help our clients be more sustainable by providing them ways to rationalize the way this can be measured, the footprint, the negative aspect of running your operation, and the handprint, what do you bring to the society to improve sustainability of the society.

Governance, no surprise, no surprises. It has been published. The only comment I will have on this is, of course, highlight [ duals ]. I did 40 years of [ dual ] with Charles, and I'm going to replicate it with Pascal. So the potpourri aspect of being both Chairman and CEO is a temporary aspect. Pascal wants a few more quarters to be ready to remove the deputy side of this title, Deputy CEO. Congratulations. You tell me when you're ready, and we'll solve it.

And I'm so delighted to have Rouven who'll reveal himself in an incredible way coming from MEDIDATA, having an incredible international experience, having been in SAP, in India, in California and then on the East Coast and working with MEDIDATA now is really -- he has -- He's part of our DNA, a European culture, despite the international one. And we think European is important for also tech. Not only we think it's not happening in America only.

And the second aspect of it is really this capacity to do new engineering, our future business model, to really create on the better articulation between the value we provide to our clients and earning an honest buck.

With that, I give the floor to Pascal, who is going to give you a color about the dynamic with clients, but congratulations to both of you.

**Pascal Daloz**
*Deputy CEO, COO & Director*

Thank you, Bernard. Thank you. Again, it's a great honor to take my new role, and I should thank Bernard and the rest of the team because, as you know, we are long term at Dassault Systèmes. And I think for you investors knowing that the management is coming from the ground, for the people having a real journey at Dassault Systèmes, it's something extremely important. And I'm not the only one, of course. The entire team is having a huge journey at Dassault Systèmes and a worthy experience.

In my new role, obviously, I will remain deeply committed to helping clients to face the challenges and to make their ambition a reality in a game-changing environment. So in 2023, we unveil -- if we look concepts, which what Bernard was presenting, which is how we are making the links between the value creation and the value experience, and I think this shift is opening a lot of new opportunity for us in terms of new value propositions, but also it's a way to expand the reach in terms of audience.

And I have a few proof points this quarter I want to share with you. The first one is what happened in the manufacturing industry. Obviously, you know we are the one leading most of the changes in the last 40 years, transforming indeed this sector. In transportation and mobility, the electrification is really happening, and it's an entire new paradigm. And clearly, we are at the core, but there is something also happening in this industry. The environment, the macro environment is extremely volatile. And we see more and more customers using the virtual twin concepts, not to do the virtual twin of the products, but to do the virtual twin of the company.

And Renault, with their program called Renaulution, launched, I think, 18 months ago, that's what they do. And here, we have a concrete case. As you may know, the price of the raw materials are extremely volatile for the time being. And this can almost crunch the entire margin of the vehicles. So if you don't know how to predict it, if you don't know how to anticipate it, you are almost putting the company at risk.

So what are we doing for them? We are using the virtual twin and the infrastructure we have put in place, and we combine this with the real-world evidence, all the prices come in real time, whatever it's from the raw materials, from the suppliers. And just to give you an idea, the way they were doing it in the past, it's 100,000 documents they were exchanging across the entire supply chain every month just to be capable to do the costing of the car.

And it's also an interesting case because all the people know extremely well what we do from a life cycle management with our 3DEXPERIENCE platform. But now they start to realize that we also have these data centricity capabilities, the AI capabilities. And if you combine the two, it's pretty unique. And here, you have a concrete case.

We deployed this solution also with the cloud, which is also interesting for you because in less than a month, we have been able to equip 2,000 people. And it's not only the traditional engineering departments. In this case, it's the procurement, the costing, the FP&A, the finance. So all those new audience, usually we have not achieved. So that's the first case.

The second one is Amgen in the life sciences. And as you know, in this sector, the biologic is really changing the games. It's changing the game because it's a new promise in terms of therapeutics, but also, it’s extremely complex to produce.

Amgen, for the one who follow us for a long time, they're customers of MEDIDATA for all the clinical trials; BIOVIA for the discovery and the research; and also SOLIDWORKS because they are developing some devices.

And what they are doing right now, they are deploying the 3DEXPERIENCE platform on the cloud to unify all the application, including the one they have developed by themselves because they want to have one single source of truth. That's reason number one.

Reason number two, they are unifying the life cycle of all the different species, the APIs, which are being the regions for the drugs, the drug itself, the devices and the processes to manufacture those things. That's the second reason. And why they do this, because they want to accelerate the tech transfer to manufacturing.

The third reason why they are doing, they are using the 3DEXPERIENCE platform to unify is also they are -- they have 2 different manufacturing facilities issue on, the one which are chemical-based and the one which are biological based. But the reality, you need to ensure the same level of quality, the same level of regulatory compliance and again, having a unified way to master this is becoming extremely important for them.

So for all those reasons, I think again, we are really changing the game in this industry by not only bringing scientific innovations but also making it industrial, if you want. That's what we do.

The third example is what's happened in infrastructure and cities. And you know you are more than me aware about the situation with the geopolitics and the crisis in the energy. And now, the nuclear power is back on the scene, and I was reading some statistics. The internal Energy Agency is expecting the nuclear power capacity to double between now and 2050. But to make this happen, again, you need to come with scientific breakthrough. And it's extremely complex to put in place, not only from a design and a construction standpoint, but also we need to connect the entire chain, the producer, the operators, the regulators. And all of them, they have to move along this way. You know that we are the leader in this industry. Remember, EDF is one of the large customers. You have the new commerce, the disruptors like NAAREA, I spoke about it, [ to guide ] different things [ the small helpers ].

We are also deeply involved with CEA, which is the French authorities to control the nuclear [ study ]. So I think this entire chain needs to move at the same time. And that's the reason why we continue to foster the adoption of the 3DEXPERIENCE platform. And here, you have a concrete case in Framatome, [ developing ] new equipments adopting the 3DEXPERIENCE platform in order to ensure against the quality and the safety, reduce the cost at the same time and capitalize on the innovation.

So if we move to the cloud, which is also an interesting mix because you have seen most of the example I gave are the customers are on the cloud. And in 2022, just to give you an order of magnitude, we had 20,000 new customers and more than 25% are on the cloud.

So I think for the one having talked about how the cloud adoption, it's happening. And here, you have only a sample. And you will notice it’s a connection between very small companies, startups, large enterprises, supply chains. So it's really touching almost the entire footprint of Dassault Systèmes.

Why it's happening now? I think there are different -- there are several reasons. First of all, we have more applications, more than processes available on the cloud that we have on premise. So the portfolio is there and it’s there for now almost 2 years.

The second thing I think we are operating and we have the proof points at the highest standard in terms of availability and security. And this is extremely important for many of our customers.

And third, they are not [ salable ]. I think with 3DS OUTSCALE, we are differentiating ourselves with this international dedicated and private approach, which is a way to ensure total compliance with the regulations, with law, with also security. And I think this is starting to pay off.

So clearly, the cloud is -- and Rouven will give more detail about this, but the momentum is extremely good.

Zooming to now the performance per regions. What we can see, we see Americas growing at 13% in Q4, accelerating compared to the beginning of the year. And this growth is mainly driven by Life Sciences, Aerospace, where we continue to see a significant trend, but also, High Tech. And you will be surprised the large tech company, you know very well, the giants of the Silicon Valley are our customers for all of them, and they are deploying massively what we are doing.

Europe, I think we are demonstrating good resilience in Europe with Transportation and Mobility and Aerospace driving the growth. But the most important thing is still France and the South of Europe is growing double digit, which is, I think, a proof point that despite difficult macro, we are still capable to grow double digits in certain regions of the world where we have large projects being engaged, and we are driving the entire supply chain.

Asia Pacific, 7% for this quarter, 10% for the full year. And here, you are aware about the situation, China, where we face the headwind with this successive confinements. But I think we are so diversified from an industry standpoint, from a geo standpoint, now we have this ability to offset. And you can see Korea and India are going up double digits, and Japan had an extremely good performance this year. So clearly, we are capable to offset certain events happening, which are ones which are not in our control.

If we look at the trend by product line, I would say the most important thing is you can see the 11% of the growth for innovation, what we call industrial innovation, software revenue, which is the core PLM.

And why it's important because I'm still reading piece of research explaining that we are losing market share. Again, make the computation 8% for the full year, 11% for the quarter, ENOVIA and SIMULIA, up double digit; CATIA almost double digit for the quarter; and clearly, very close for the full year, driven by CATIA Cyber, CATIA 3DEXPERIENCE platform. So -- And I was checking for you the win rates and the win rates we have in front of the competition is over 80%. And in certain cases, it's almost 100%. This is clearly what happened with Agile. Right now, we are replacing Agile in the High Tech sector. We are also replacing SAP PLM. You know that they took the decision to stop the products, and they are basically making this partnership with one of our competitors. So the dynamic in terms of competition is extremely good in this sector.

Life Sciences, we continue the good momentum we have. 12% this quarter, 13% for the full year, which is in the range of what I told you. Remember, last year was an amazing year for the Life Sciences. And as Bernard was saying, this industry is becoming -- is now the number one industry. And I was checking also the top 20 large customers we have, 7 of them are coming from this sector.

And it's only the beginning of the story because you see the performance coming from MEDIDATA. BIOVIA is back on growth, and we see more and more traction on the rest of what we do.

You have seen with Amgen. Now they are considering ENOVIA for the life cycle management, DELMIA, for the manufacturing and production at scale. SIMULIA is widely used also for the tests especially in the med device industry.

So we continue to expand, and we are pretty confident on this ability to maintain the growth rate in the next coming years.

Mainstream and Innovation, plus 7% for the year; plus 3%. And again, this slowdown for the second half of the year is really coming from the SOLIDWORKS momentum. It’s impacted by China and also the inflation. Clearly, this is where we have seen the biggest impact of the inflation because this has constrained some of our smaller customers to do the trade-off in terms of investments and postpone some of the decisions to be equipped, hopefully, in 2023. So we are relatively confident on the fact that we will be back. And Rouven will say more about the guidance.

But for China, clearly, the reopening is a good sign. We are still a little bit careful for the H1, but for H2, we do expect to be back on the growth where it should be. That's for the business trends.

Rouven, you have the floor, to give more details about the financials and the guidance.

**Rouven Bergmann**
*CFO & Executive VP*

Thank you so much, Pascal. Thank you, Bernard. Good morning also from my side. Welcome, everybody, joining us remotely and here in Paris. So I am in control. Okay, cool.

So we start with the financial highlights and objectives, as you expect for this earnings meeting. And let's get first, a good overview on our Q4 and full year financial performance. Just to summarize, it's very basic. And simply, we had a very good fourth quarter. The total revenue with growth of 16% as reported and 10% at constant currency and this is relative to a high comparison base. I think it's important to keep that in mind.

And these excellent results, as you heard from Bernard and Pascal, they truly reflect the confidence and the trust that our customers have in working with Dassault Systèmes, especially in times when volatile macroeconomic challenges require fast changes.

Software revenue rose 9% at constant currency, driven by strong recurring revenue, which is up 11%. And the subscription revenue growth, it's important to note -- take a note of this as it’s accelerating to 18% in Q4, while the license revenue recognized upfront grew a healthy 5%. And this is also very good news compared to the performance you saw in Q3 where you had some questions. You see very good performance in license revenue in the fourth quarter. And that's what we projected.

Now let's take a look at the combination of subscription and upfront license revenue. They both together rose 12% at constant currency during the quarter. And the combined growth of both revenue streams is a good measure to look at the new business growth, irrespective of the contracting model and the customer preference.

And as we continue to increase our share of subscription revenue, it is our conviction that aligning with the business models of our customers across the geos and the industries, by offering the flexibility of both subscription and the CapEx-oriented license models, that this creates a unique differentiation of our platform and our offering.

Now rounding out the good performance for the quarter, services revenue increased 15%, as you can see and also that at constant currency during the period. The fourth quarter operating margin was 34.9% and the earnings per share rose 20% to EUR 0.34 as reported.

Now this strong finish complemented very good 2022 full year results, which are well in line with the revenue objectives and demonstrating the resiliency of our model with total revenue up 9%.

Recurring revenue is up 10% in constant currency and now it averaged 78% of software revenue. It is an increase by 70 basis points relative to last year.

While the license revenue was up 6% for the full year, we also continued to deliver strong subscription revenue growth for the full year at 15%, and you see the acceleration in Q4, 18%, full year subscription was 15%.

So here, I want to take an important note and highlight for you, which is that the subscription revenue for the full year 2022 is now 1.5x of the upfront license revenue and both together, for the full year, are up 11%, as you see on the chart.

In 2022, we fully executed our strategic investment plan, aligning us with our long-term growth initiatives. And we will capitalize on these investments in 2023 and beyond, and I will elaborate further on what I mean by that when I speak about the guidance in a moment.

At the same time, as you can see from the numbers, we delivered our profitability objectives for the full year and earnings per share increased 19% to EUR 1.13 as reported. And this is well ahead of the objectives we set at the beginning of the year.

Now let's move on to our growth drivers of 3DEXPERIENCE and Cloud. We delivered excellent results again this quarter. Clients from established enterprises to new players and disruptors, they are all adopting the 3DEXPERIENCE platform and you saw some of those examples in Pascal's presentation. With the 3DEXPERIENCE, revenue grew 24% at constant currency and accounted for 37% of software revenue in Q4, which is an increase of 4 points year-over-year. And on a full year basis, the growth of 22% and a share is 33% of software.

Now to the cloud, 22% ex-FX in parts driven by the continued good momentum in Life Science and MEDIDATA, but also you saw the impressive track record we've put up in 2022 and winning new 3DEXPERIENCE cloud clients that's driving this number of 22% growth for the full year, and it's improving its share by 3 points to now 23% of software revenue for the year.

Now let me turn to some more details of the fourth quarter and how we performed relative to the financial objectives we set.

The total revenue of EUR 1.584 billion was up EUR 36 million, higher than the midpoint of our target range, which should reflect, as I said, the resilience of our model and the strong execution by our team. We reported software and service revenue above the midpoint by EUR 7 million and EUR 10 million, respectively. So EUR 17 million contribution from revenue. And we benefited from an FX impact of EUR 19 million during the period.

Now to the operating margin. We reported 34.9%, in line with the objectives. Relatively stronger revenue and growth partially offset by higher expenses, resulting in a small net negative impact of 0.5 points. There was no FX impact on the margin as revenue and expense impacts offset one another during the period.

Now it's clear from the numbers we delivered on our profitability targets while we hired 400 net new team members during the quarter. But in Q4, we fully completed our strategic investment plan. We grew head count by 10% year-over-year overall with more than 50% of the new hires in R&D in India, of which a significant portion continues to fuel the momentum of MEDIDATA. So as Bernard was pointing out, we are investing significantly in this business.

Now turning to the fourth quarter earnings per share. We delivered strong growth of 20% to EUR 0.34 as reported, which is well aligned with our objective range of 12% to 18%, and the growth benefited from a lower tax rate and higher financial income, which contributed EUR 0.012 and a slightly more favorable U.S. dollar-euro conversion rate that had an impact of EUR 0.005 on the EPS.

The non-IFRS tax rate for the quarter was 19% versus the guidance of 21.4%. And this was driven by continued benefit from the higher FDII tax deduction in the United States.

Now let's turn to our cash flow and balance sheet items.

Cash and cash equivalents totaled EUR 2.769 billion compared to EUR 2.979 billion at the end of last year, which is a decrease of EUR 210 million.

Now important, our net financial debt, December 31, 2022, decreased by EUR 662 million to now EUR 227 million. That's the number you see on the right side of the chart. And this compares to EUR 889 million at December 31, 2021. And this, the important message and takeaway, it keeps us well ahead of our deleveraging objective.

Now let's look at what drives our cash position at the end of 2022.

First, you notice that our operating cash flow is slightly down year-over-year by 5%. And this is mainly driven by 2 distinct effects. First, looking at the changes in operating working capital, the timing and seasonality played a critical role in the second half of the year as the collections in Q4 were muted because of the lower activity and performance in Q3. You remember we discussed that. It's just an impact from Q3 to Q4.

At the same time, Q4, we signed significant large transactions and renewals that we invoiced right before the end of the quarter, resulting in a strong increase of receivables. And as you expect, we will see this corresponding positive impact at the time of collections in Q1 2023, but pure timing.

Secondly, as it relates to the change of nonoperating working capital and the evolution of noncash items, the largest impact is related to higher tax payments in the United States in 2022 as discussed in previous quarters due to the fact that we -- that there's mandatory capitalization of R&D expenses for tax purposes. And as a result of that, the deductibility of these expenses is delayed, resulting in an increase of cash taxes that we pay in 2022. And this onetime net cash impact for the full year was about EUR 130 million.

Now adjusting for this amount, plus an unfavorable impact from the delay of tax reimbursements, the cash flow from operations would have been up 5% on a strong 2021 comparison base.

And as we've always said before, we are committed to returning value to our shareholders through innovation, acquisitions, stock repurchases and the prudent use of debt and our dividend. And consequently, in 2022, we used the operating cash for share buybacks, net of proceeds from stock option exercises at a total of EUR 379 million, we paid out dividends at EUR 224 million and repaid debt at the level of EUR 886 million, which is net of proceeds from EUR 250 million commercial paper, which we issued in the second half of 2022.

And so lastly, of note, we had a benefit of EUR 71 million from FX during the year.

Now let's move to 2023 objectives.

Looking at 2023, the key message is that we are on track to achieve our long-term financial objective of EUR 1.20 earnings per share well in advance. This underscores the resilient business model and the focused execution to double EPS according to our long-term plan. As Bernard said, we walk the talk.

Total revenue is expected to grow between 8% to 9% at constant currency to a range of EUR 5.925 billion to EUR 5.975 billion. Software revenue growth rates are in line with 8% to 9%.

We anticipate recurring revenue to increase by 10% to 11% and license revenue recognized upfront to grow between 2% to 5%. As such, we expect the share of recurring revenue to increase by about 100 basis points to the full year to 79%.

We are forecasting subscription revenue to accelerate the growth by over 200 basis points to a range of 17% to 18% growth, driven by continued strong 3DEXPERIENCE and cloud momentum, which we discussed growing 20-plus percent. And with this is on track to achieve the target of EUR 2 billion by 2025.

As we always said, it's our objective to progressively increase the share of recurring revenue from subscription and cloud. This is what we mean by increasing the share of predictability.

At the same time, we continue to leverage our leadership position to capture more of the market to increase our growth rate of new business. And this is what's reflected in the combination of both the growth and subscription and the growth in upfront from license revenue, which is expected to accelerate by up to 200 basis points to 11% to 13% growth in 2023. And you see it's growing faster than the total revenue.

For service revenue, we are targeting 5% to 7% growth, reflecting robust activity, delivering innovation for clients across all segments with healthy margin.

Now turning to the profitability. Our 2023 operating margin objectives is 32.3% to 32.7% (sic) [ 32.6% ], and this is 60 basis points below last year and reflects the carryover effect from our 2022 investment plan.

Last year, to compensate for relatively lower levels of investments during the pandemic, we accelerated in 2022 the hiring of engineers, sales and service resources to sustain and support our long-term growth.

And as I mentioned earlier, this investment plan has been fully and successfully completed. And this year in 2023, we will capitalize on the previous investments and reduce the hiring rate significantly to absorb this run rate and reduce expense growth, which will allow us to snap back to the margin level of 2022 by 2024.

Now let's briefly touch on the first quarter objective for 2023.

We are targeting revenue growth of 7% to 9% at constant currency, with recurring revenue increasing 10% to 11%, driven by strong subscription growth of 12% to 16%. So that's a continued momentum.

We are forecasting upfront license revenue growth down in the range of negative 7% to negative 2%, and the reason for this tough start in the year is simply a very strong comparison base in Q1 of 2022. And still the high potential for continued headwinds of our business in China.

While we are hopeful for a return to a more normal operations, we also want to be prudent in the first quarter and the first half of the year.

For services revenue, we are predicting 11% to 12% growth.

In terms of profitability, we are forecasting the operating margin of 30.7% to 31.3% and diluted EPS of EUR 0.27 to EUR 0.28. This reflects the seasonally lower margin profile in Q1 and the higher expense level from the carryover effect that I mentioned above, which will improve throughout the year.

Also, please keep in mind that Q1 of 2022 was exceptionally low in terms of spending because many of the COVID-related restrictions were still in place.

For additional information on our objectives, I ask you to refer to our earnings presentation.

Now in conclusion. In 2022, this was highlighting it's a year of resiliency of our business. We continued to advance our strategic priorities and gaining market share, and we strengthened our leadership position. You see this reflected in the acceleration of both recurring revenue and subscription revenue growth, leveraging 3DEXPERIENCE and cloud.

We completed our investment plan to support our long-term growth opportunities while delivering on our profitability objectives, growing EPS 19% year-over-year.

For 2023, we are providing strong guidance, despite the challenging macroeconomic backdrop, positioning us to advance towards our EPS objective of EUR 1.20, which puts us ahead of the schedule.

And therefore, we invite you already this year to join us at our next Capital Market Day, this coming June at our headquarter in Paris to talk about the next upcoming financial and long-term plans. So we hope you can all join us.
And now I would like to turn us to questions. Bernard, Pascal and I will be happy to take your questions.

# Question and Answer

**Beatrix Martinez**
*Vice President of Investor Relations*

Thank you, Rouven. And I suggest that we start first with some questions in the room, if there are any.

**Laurent Daure**
*Kepler Cheuvreux, Research Division*

It's Laurent from Kepler Cheuvreux. Just 2 questions for me. The first is if you could share with us a broad overview by vertical the top 3 or 4 verticals, what you're seeing in terms of demand for 2023.

And my second question is back to the cloud revenue. Could you give us a bit of granularity, excluding MEDIDATA, the main drivers?

And also, I don't know if you have that information, but the profitability of the cloud ex MEDIDATA, what do you see? Do you have worries compared to your on-prem business?

**Bernard S. Charles**
*Chairman & CEO*

Pascal, do you want to start with the first one or?

**Pascal Daloz**
*Deputy CEO, COO & Director*

Okay. I start with the first one which is the verticals. Yes. So let's start with now the largest industry which is Life Sciences. As I was telling you, you could assume that we will continue to deliver on the same momentum, maybe with a different mix because I think the -- I do expect more contribution from BIOVIA and also from the rest of the portfolio. But overall, I think this industry is extremely healthy. And more than ever, we are gaining market share into this space.

The auto sector, we had a good year in 2022. You have noticed it. Quarter-by-quarter, we deliver. And now, we see also large incumbents. The one was taking their time, let's say, this way, to move to 3DEXPERIENCE platform, moving especially in Germany. It's happening. So to a certain extent, I have relatively good confidence on the auto sector as well, including the supply chain. I heard some of you had some concern about the newcomer, the EV guys, because some of them are, financially speaking, in difficult situations. But the vast majority of the customers we have are really the one having certified their vehicles. Now they are basically introducing the vehicles and the traction is coming on the manufacturing side because now they need to produce it at scale.

Aerospace, again, it's going also well. You saw that. I think Rouven was mentioning it, large European company in aerospace willing to hire more than 13,000 people. And the reason is because it has to produce the backlog. So the fact that the volume are back is extremely important for us to continue to fulfill the growth.

The vertical on which we are still a little bit careful is Industrial Equipment because the level of exposure to the mainstream market is higher and especially in China. And that's the reason why, based on my comments, we are cautious for H1. And if China is reopening well, we could expect to have some acceleration on the second half of the year.

The consumer side, business is also interesting. So it's shifting from, I would say, the traditional consumer goods products like the one you are buying on a daily basis to the consumer electronics, where we are gaining more and more market share. And I was mentioning to you that we signed some large contracts in Q4. This will continue also in 2023 with the large giant -- the tech giants in the Silicon Valley. So with this, I think you have a good understanding of the momentum.

The key point I could add is compared to 2022, if I look at the pipeline, the real differences is I think we have much more visibility and confidence with the partners. You remember, we are selling through partners and especially the one addressing the auto and the aerospace supply chain, I think the pipeline is much better compared to where it was last year at the same time of the year.

**Rouven Bergmann**
*CFO & Executive VP*

Thank you, Pascal. I take the second part of your question regarding the cloud and the insight, maybe to help you better understand the dynamic. 22% cloud subscription growth for the total, very consistent. We know we said MEDIDATA is growing in the range of 13% to 15%, and that is the case. So we see good continued momentum for MEDIDATA. Of course, at a very large scale, MEDIDATA cloud revenue is -- as you know, it's the largest component in the cloud revenue growing at between 13% to 15% on average. We had quarters where we were growing higher, but keep it at 13% to 15%, that's a good framework.

Now the other 3DEXPERIENCE products, 3DEXPERIENCE cloud products, 3DEXPERIENCE cloud solutions are growing much faster, much, much faster. And I can go through my list that I have in front of you here. I can mention those who are growing the fastest.

In the mainstream market, SOLIDWORKS is growing fast. It is at a smaller base, but it's growing very fast. CATIA 3DEXPERIENCE is growing very fast. I mean we talk about the renewal case, it is CATIA 3DEXPERIENCE. We also see very good traction in BIOVIA cloud. We have -- we talked about that we are transforming BIOVIA from an on-prem model to the cloud and we see that taking off very well. Centric, very strong cloud component business, which is growing nicely. SIMULIA, there's more and more cloud traction that we see as also more and more of the SIMULIA capabilities are 3DEXPERIENCE based.

So there's a broad-based momentum behind 3DEXPERIENCE and cloud, which is far beyond MEDIDATA. That's my message to you. And when you do the math, you will realize that the number is almost close to triple digits in terms of growth that we see.

So our objective really is with this portfolio to be close to doubling the revenue growth year-over-year. That's what we are doing, right? And we are delivering this through our 3DEXPERIENCE strategy and that more and more new customers are adopting in the cloud first as well as incumbents are expanding to the cloud.

On the margin, maybe one word on the margin. The margin is like the margin -- the on-premise margin, there's no difference to us. We are pricing the cloud component into our offering. We also need to know that when we sell the cloud, in most of the cases and what you see reflected in our financial statement, it’s based on our infrastructure in 3DS OUTSCALE.

When a customer decides to go with a third-party cloud provider, it's not part of our financial statements. So we do not include those into our financials as a cross revenue as many other tech companies are doing. So there's no margin impact from third-party cloud providers in our financial statement.

**Beatrix Martinez**
*Vice President of Investor Relations*

Do we have another question from the room? Otherwise, we will move to the call. Thank you.

**Operator**

[Operator Instructions] And the first question comes from the line of Frederic Boulan from Bank of America.

**Frederic Emile Alfred Boulan**
*BofA Securities, Research Division*

If I can just come back on that subscription dynamics, and if we can spend a bit of time on the demand. So you talk about growth rates, but from a low level. Maybe if you can share with us what type of customers are moving and whether they go primarily for subscription model on-prem or if it's largely cloud?

And then if you can also help us quantify the overall net revenue impact. I think it's helpful to talk about this subscription plus in upfront revenue. But if you can help us identify the underlying revenue impact if we net the license plus the subscription impact.

And then secondly, if you can give us an update around M&A priorities across your different segments. Where do you stand right now? Where do you see the most attractive opportunities to fulfill your 2040 ambition?

**Bernard S. Charles**
*Chairman & CEO*

Okay. So I will answer at least to the first part of the question and maybe the last part at the same time. So the fraction of the customer moving to the cloud are really it’s products-based now. If you remember a few years ago, the project-based industry were really the core. We were talking about construction, we were talking obviously about the clinical trial because there is a start and an end. And why so? Because the cloud was giving this flexibility if you want to and this agility to connect different stakeholders easily.

Now with the data centricity of the platform and the collaboration capability of the platform, it's another game. We see more and more. And again, you have seen Renault. This is not the only one. So large company having a significant P&L deployments and moving to the cloud. And for me and for our customers, I mean, they have a road map. Obviously, it's not something they can do overnight. But for many of them, now they have a road map plan and [ so as an example ], they expect to do this transition in the next 5 years.

We are also -- we continue also to have the startups. Many of them are start from directly with the cloud. And clearly, the consumer parts of what we do just because they do not have large [ interbase ] in our sectors, many of them, they start also straight to the cloud. So clearly, this is where are.

We believe it or not, the aerospace is also moving, obviously, with a different set of requirements. And that's, again, the reason why having this 3DS OUTSCALE with this ability to do a dedicated cloud, which is nothing more than the future of what you call on-prem. On-prem is now -- it will be not any more the application being inside the desktop. It will be the cloud dedicated for them on their premise but managed by us. So that's the entire strategy, and we see large aerospace company moving along this way, whenever it's in Europe, also in the U.S.

The last part of the question, which was related to the M&A, of course, we are almost leveraged. You have seen it. So now we have some new room to maneuver. We didn't stop, by the way, to do the M&A. We did some bolt-on, but this is -- sure this is now we have much more flexibility to consider a sizable move.

I will not say more. We have a Capital Market Day in the beginning of the year. And frankly speaking, we have opportunities in the 3 sectors of the economy. So the question is not too much the target is -- or potentially with who we could merge, it's much more, is it the right time? Are we prepared to do this? Is the business plan okay? And are we capable to create value on top of this? That's the things.

**Pascal Daloz**
*Deputy CEO, COO & Director*

We thought we could buy and not merge, because we want to keep the control of our content, of course.

**Bernard S. Charles**
*Chairman & CEO*

Of course.

**Operator**

And the next question comes from the line of James Goodman from Barclays.

**James Arthur Goodman**
*Barclays Bank PLC, Research Division*

A couple for me then as well, please. Can we first of all, just focus in on the margin a little bit more? I think you showed that OpEx development in the quarter was a 1.2 percentage point deviation from the midpoint. So what was it exactly in the quarter that caused the elevated OpEx? And perhaps you can help us a little bit more with the moving parts in the OpEx development next year. It sounds like you're still adding some heads net and I guess there's some wage inflation coming through there.

And the second question, on the cash flow, please. Just you made some clear comments around the impact from Q3 and the billings being weighted towards the end of Q4. But I think there was an expectation that we might be fully delevered already by this point. So I'm wondering if there are any other parts there what you're expecting that to do in '23 and whether customers are changing payment behavior at all as rates increase.

**Bernard S. Charles**
*Chairman & CEO*

Rouven, I think you excel in that domain.

**Rouven Bergmann**
*CFO & Executive VP*

All right. So maybe I'll take the second first and then I come to the margin. James, thank you for your questions. So yes, our target, we were -- we are on trajectory and we are far ahead of the plan to delever. You'll remember, it was -- it's actually planned by the end of this year. In Q4, we had some timing differences that were the tune of EUR 300 million to EUR 400 million, right, of unfavorable cash timing between Q4 and Q1. So we will see in Q1 that we will be delevered. That's the objective. That's what we expect. It's a pure timing impact.

And my comment on Q3 is really related to when we had softer results in Q3, also that was reflected in billings and then it flows through to the collections in the following quarter. So is something that we had to work through. But at the same point in time, the real strong business momentum in the fourth quarter delayed. This had an increase in receivables, and we will collect them in the first quarter.

To be clear, there is no different customer behavior in terms of billing terms or terms that they are asking for. That is not what's happening here.

Then back to the margin, the first question. So in Q4, we were at the lower end of our margin. Yes, you are right. And the result of this is we've successfully completed our hiring plan. We were hiring a little bit faster. So there's an increase of expenses as a result of that. We also had a strong finish in the fourth quarter, as you know. And when you finish strong, you have the sales folks who earn their commissions, which is a good thing. And so that's reflected as well.

So that’s really the momentum and executing according to our plan that we set. That's the Q4 story.

Now 2023, I think I was explicit and you understand it correctly that we have a carryover effect from the investments we made in 2022. And that run rate and carryover is probably twice the size of what the normal run rate is. And that will normalize through the course of the year as we are more dialing back the rate of hiring, and we will be disciplined on spending, and we'll be back at the margin level in 2024 of 2022.

**Operator**

And the next question comes from the line of Toby Ogg from JPMorgan.

**Toby Ogg**
*JPMorgan Chase & Co, Research Division*

A couple from me as well. Maybe just firstly, just on the license growth phasing through the year. So you've obviously guided for the minus 7% to minus 2% in Q1. Should we be expecting a similar level of license growth in Q2 and then a bigger step up in the second half, or more of a linear acceleration from the Q1?

And then secondly, just again, coming back on the license to subscription element. In the third quarter, you helpfully gave us the headwind from any deals switching from licenses to subscription. Could you give us a sense as to whether there was any headwinds in 4Q from that dynamic?

And then also just give us a feel for sort of what you factored into the ‘23 license growth guidance from that dynamic as well?

**Bernard S. Charles**
*Chairman & CEO*

Maybe I can start and feel free to add what you want. So my first comment will be for you to be -- you were basing on the fact that we will be for Q4 with a license. And I think you are now having a good surprise about the fact that not only we deliver, but we deliver on the higher range of what we were expecting with a strong comparison base.

Why I want to make these comments because I want to echo what Rouven said. We want to keep the 2 models. And we have -- you have to stop to play against each other. At the end, those 2 are good. The reason why we do this is because we want to comply with the business model of our customers. Not all of them are capable to do expensive, especially the one receiving funding from [ government ] for example. For those, you need to have a CapEx-based approach. And that's the reason why we are keeping the 2.

Now coming back to your questions. What is reflected in the guidance for Q1 is, to a certain extent, the strong comparison base we had last year, if you remember and the China uncertainty we have related to the reopening, and that's the reason why we took some cautiousness in upfront license for Q1. It's our style. It's our style and one is applying the same disciplines we used to have over the last 20 years, please.

So we could expect if China is reopening to see obviously an improvement of this. And if you remember, the second half of the year, the base comparison is much better because we started to have the impact last year.

Just to give you an order of magnitude. The impact of China last year, only for the mainstream market, it's EUR 25 million with our opportunity we are not being able to catch. So it's material. So if you believe that the reopening will happen and to a certain extent, the base is much better in terms of comparisons, you will see this acceleration over the quarter. That's the underlying assumptions on which we have built the guidance.

**Pascal Daloz**
*Deputy CEO, COO & Director*

Yes. And there was -- I mean, in terms of the Q3, Q4 dynamics, Q3 was software, and we talked about this because it was also reflected in our pipeline as such. Q4 was strong, and we were clear when we set our guidance for the fourth quarter, and we delivered that. So everything that was planned to deliver has been delivered in the fourth quarter.

**Operator**

Now we're going to take our last question over the phone. And the question comes from the line of Nay Soe Naing from Berenberg.

**Nay Soe Naing**
*Joh. Berenberg, Gossler & Co. KG, Research Division*

Let me ask a few questions. Maybe one for you, Rouven. Talked a lot about -- already talked a lot about the margin progression in 2023. Just I understand that there will be carryover costs from '22 into '23. Could you maybe guide us in terms of how we should think about year-on-year increases in operating expenses? Presumably, as we're coming off quite a large increase in 2022, how should we then think about the year-on-year increased levels in '23? And if you could split it between H1 and H2, that would be incredibly helpful.

**Rouven Bergmann**
*CFO & Executive VP*

So I think this will help to sharpen your models, and I'll be happy to give you some insights. So 2022, the growth in OpEx over 2021 was around 11% ex FX. Now for the guidance coming into 2023, in the range of the objectives we have set for the top line, the expense growth, between 9% to 10% for the year.

And as you see in the first quarter, you see a higher margin there, right? Because also, we compare unfavorably against Q1 '22, where we had a lot of restrictions and less spending, so there is a margin progression throughout the year in terms of your H1, H2 comment.

**Bernard S. Charles**
*Chairman & CEO*

And maybe I can make a comment on this. If you step back, at the end, we are delivering the commitment on the EPS a year in advance. And we are investing when the entire industry is laying off, which is, to a certain extent, a good way to catch the talent. So I think it's maybe [Technical Difficulty]

**Nay Soe Naing**
*Joh. Berenberg, Gossler & Co. KG, Research Division*

So sorry, I didn't quite catch the last bit. You were mentioning that the talent availability in the industry has become -- could possibly become favorable for you?

[Technical Difficulty]

**Bernard S. Charles**
*Chairman & CEO*
In Paris, sunny Paris at that point. Thank you very much, and we always enjoy to continue to keep the quality relationship to address all your questions. All the best year for you.