CELYAD S.A.

FORM 6-K
(Report of Foreign Issuer)

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FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the Month of July 2019

Commission File Number: 001-37452

CELYAD SA

(Translation of registrant's name into English)

Rue Edouard Belin 2
1435 Mont-Saint-Guibert, Belgium
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

Celyad SA

On July 2 nd , 2019, Celyad SA (the " Company ") issued a press release, a copy of which is attached hereto as Exhibit 99.1 and is incorporated by reference herein.

The information contained in this Current Report on Form 6-K, including Exhibit 99.1, except for the quote of Filippo Petti contained in Exhibit 99.1, is hereby incorporated by reference into the Company's Registration Statements on Forms F-3 (File No. 333-220285) and S-8 (File No. 333-220737).

EXHIBITS

Exhibit	Description
99.1	Press release issued by the registrant on July 2, 2019

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CELYAD SA

Date: July 3, 2019

By: /s/ Filippo Petti
Filippo Petti
Chief Executive Officer

Exhibit 99.1

Press Release
1 July 2019
10:01 pm CEDT

Celyad Announces Strategic Updates to the Autologous r/r AML and MDS Program

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- *Regulators accept proposal to utilize OptimAb manufacturing process, which enriches for T cells with memory-like phenotype, with CYAD-01 under current IND application*
- *FDA accepts IND application, including OptimAb manufacturing process, for CYAD-02 - next-generation NKG2D-based CAR-T therapy focused on improved persistence. CYAD-02 Phase 1 trial scheduled to start in early 2020*
- *Today's updates to our r/r AML and MDS program are built on the clinical profile seen to date for CYAD-01 and focus on increasing the potency of NKG2D-based CAR-Ts in order to drive towards Phase 2 clinical development*
- *Management to hold a conference call on Tuesday, July 2 nd , at 2 p.m. CEDT/ 8 a.m. EDT*

Mont-Saint-Guibert, Belgium - Celyad (Euronext Brussels and Paris, and Nasdaq: CYAD), a clinical-stage biopharmaceutical company focused on the development of CAR-T cell-based therapies, today announced several strategic updates to its relapse/refractory (r/r) acute myeloid leukemia (AML) and myelodysplastic syndromes (MDS) program, including its lead autologous NKG2D-based CAR-T therapy, CYAD-01, as well as the next-generation NKG2D-based CAR-T candidate, CYAD-02. The Company's management team will host a conference call tomorrow, July 2 nd , at 2 p.m. CEDT / 8 a.m. EDT, to discuss each of the updates and future milestones for the program.

Filippo Petti, CEO of Celyad noted *"Over the past few years Celyad has made great strides in evaluating our NKG2D-based CAR-T therapy for the treatment of relapsed/refractory acute myeloid leukemia and myelodysplastic syndrome. We have observed that targeting NKG2D ligands with our lead CAR-T candidate CYAD-01 drives anti-leukemic activity and is well tolerated. Today marks a milestone event as we announce that the FDA has accepted our Investigational New Drug application to commence clinical trials for our next-generation, CAR-T candidate, CYAD-02, and that the FDA and FAMHP have accepted our proposal to utilize our new, proprietary 'OptimAb' manufacturing process for both CYAD-01 and CYAD-02. Given the recent updates to our relapsed/refractory AML program, we believe we are well-positioned to improve upon the initial signals we've observed to date for CYAD-01 in this difficult to treat and rapidly progressing patient population."*

Overview of CYAD-01 r/r AML and MDS Clinical Program

To date, results from the Phase 1 THINK trial evaluating CYAD-01 without prior preconditioning chemotherapy for the treatment of r/r AML and MDS have shown the NKG2D-based CAR-T to be well tolerated with encouraging preliminary anti-leukemic activity in six of thirteen patients (46%) evaluable per protocol.

The company is currently evaluating the potential for CYAD-01 in the treatment of r/r AML and MDS in multiple clinical trials including the Schedule Optimization cohorts of the THINK trial, which is assessing a more frequent dosing schedule of CYAD-01, and in the Phase 1, dose-escalation DEPLETHINK trial, which is assessing CYAD-01 following the preconditioning chemotherapy cyclophosphamide and fludarabine, or CyFlu. CyFlu is the preconditioning therapy typically used with other hematological malignancies evaluating CAR-T cell therapies.

In June 2019, preliminary data presented at the European Hematology Association (EHA) meeting demonstrated that a denser schedule of infusions of CYAD-01 without preconditioning in Cohort 10 (Schedule Optimization) of the THINK trial and a single infusion of low dose ($1x10^8$ cells) CYAD-01 following preconditioning chemotherapy in the DEPLETHINK trial was well tolerated and led to better time-averaged engraftment of the CAR-T cells.

Strategic Drivers Aimed to Enhance NKG2D-based CAR-T for r/r AML and MDS

Based on the initial clinical data and tolerability profile for CYAD-01 from the r/r AML and MDS clinical program, Celyad aims to increase the potency of the NKG2D-based CAR-T therapy to potentially deepen the breadth, frequency and duration of clinical responses in this patient population. In particular, Celyad is focused on: 1) the optimization of treatment conditions, including denser dosing schedule or exploiting preconditioning chemotherapy; 2) optimization of the manufacturing process, including enrichment of T cells with memory-like phenotype; and 3) improving the persistence of CAR-T cell therapies through RNA interference using short hairpin RNA (shRNA) technology.

Recent Developments for r/r AML and MDS Program

CYAD-01 – Enriching Early Memory T cells in our First-in-Class, NKG2D-based CAR-T Candidate by Leveraging the OptimAb Manufacturing Process

Celyad recently submitted Chemistry, Manufacturing, and Control ("CMC") amendments to the U.S. Food and Drug Administration (FDA) and Belgium's Federal Agency for Medicines and Health Products (FAMHP) related to "OptimAb", a modified manufacturing process for CYAD-01.

OptimAb, is designed as an iterative improvement of Celyad's first two manufacturing processes for CYAD-01 (the LY and mAb processes) and builds upon key characteristics of both. OptimAb utilizes a shortened eight-day cell culture and incorporates a selective PI3K inhibitor. Combined with the manufacturing optimizations previously developed by the company, the OptimAb process results in a product that is enriched for T cells with a memory-like phenotype while maintaining the high level of manufacturing reliability required to support clinical development. The amendment filed with the regulatory agencies is based upon our in-house research focused on the development of a manufacturing process to enrich for T cells with memory-like phenotype.

Preclinical data based on conditions where the dose of CYAD-01 produced with the mAb manufacturing process is reduced to have minimal activity indicate that cells produced using the OptimAb manufacturing process drive improved anti-tumor activity in an aggressive AML model.

Following feedback from the FDA and FAMHP, the CMC amendments were accepted and now in effect with regulators under the current Investigational New Drug (IND) application for CYAD-01. Celyad expects to treat the first patient using the recently accepted OptimAb manufacturing process for CYAD-01 in cohort 4 ($1x10^9$ cells) of the Phase 1 DEPLETHINK trial in August 2019. Based on regulatory feedback, Celyad expects to stagger treatment of the first three subjects treated with CYAD-01 cells manufactured by OptimAb.

CYAD-02 – Next-Generation, NKG2D-based CAR-T Candidate

At the company's R&D Day held in March 2019, management unveiled its novel shRNA platform to develop next-generation autologous and allogeneic CAR-T cell therapies, including CYAD-02, a next-generation, autologous NKG2D-based CAR-T candidate that incorporates shRNA technology to target the NKG2D ligands MICA and MICB. The single shRNA modulates the expression of both ligands which translates to encouraging increases in *in vitro* proliferation *, in vivo* engraftment and anti-tumor activity. CYAD-02 also incorporates the OptimAb manufacturing process thereby enriching for T cells with memory-like phenotype.

In late June 2019, the FDA accepted the IND application for CYAD-02 and permitted it to go into effect. The company plans to begin enrollment of a Phase 1 dose-escalation trial evaluating the safety and clinical activity of CYAD-02 with the preconditioning chemotherapy CyFlu for the treatment of r/r AML and MDS in early 2020.

The CYAD-02 Phase 1 trial will be the first CAR-T cell therapy clinical trial employing the optimized shRNA SMARTvector technology licensed from Horizon Discovery and represents the output of a strong collaboration with the company's partner.

Upcoming Milestones for r/r AML and MDS Program based on OptimAb Manufacturing Process

- Initial clinical data from cohort 4 of the Phase 1 DEPLETHINK trial for CYAD-01 using the OptimAb manufacturing process are expected by year-end 2019. Full results from cohort 4 of the DEPLETHINK trial are anticipated in first quarter 2020.
- Initiate the Phase 1 dose-escalation trial evaluating CYAD-02, following preconditioning chemotherapy for the treatment of r/r AML and MDS in early 2020. Preliminary data from the Phase 1 trial are expected by mid-2020.

Conference Call and Webcast Details

Celyad will host a conference call to discuss the update to the r/r AML and MDS program on Tuesday, July 2 nd , 2019 at 2 p.m. CEDT / 8 a.m. EDT. The conference call can be accessed through the following numbers:

United States: +1 877 407 9208

International: +1 201 493 6784

Conference ID: 13692100

The conference call will be webcast live and can be accessed here . The event will also be archived and available on the " Events & Webcasts " section of the Company's website. Please visit the website several minutes prior to the start of the broadcast to ensure adequate time for registration to the webcast.

Background on Acute myeloid leukemia (AML) and Myelodysplastic syndromes (MDS)

Acute myeloid leukemia (AML) is an aggressive (fast-growing) form of leukemia characterized by the abnormal growth of myeloid cells, that spread in the bone marrow, blood stream and occasionally to other organs. AML is most commonly diagnosed in males aged 65-74 years old.

With about 40,000 new cases diagnosed each year in aggregate in the United States and Europe, AML is the most common type of aggressive leukemia in adults. The five-year survival rate for people 20 and older with AML is approximately 24%. For people younger than 20 diagnosed with AML, the survival rate is 67%. It has one of the lowest survival rates of all types of leukemia.

AML can develop either *de novo* in a healthy individual or in patients with a predisposing disease called myelodysplastic syndrome (MDS). Myelodysplastic syndrome (MDS) can be considered a premalignant disease that affects myeloid cells. Approximately 1,400 individuals in the United States are diagnosed each year with MDS.

Standard therapies for AML include chemotherapy (cytarabine) or hypomethylating agents (azacytidine or decitabine). If these therapies fail patients will receive a blood stem cell transplant. In addition, some patients are not eligible for transplant due to a poor general health condition. Despite these treatments, most patients relapse. As such, new or improved therapies for the treatment of AML are urgently needed.

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About Celyad

Celyad is a clinical-stage biopharmaceutical company focused on the development of specialized CAR-T cell-based product candidates and utilizes its expertise in cell engineering to target cancer. Celyad's CAR-T cell platform has the potential to treat a broad range of solid and hematologic tumors. The company's lead clinical candidate, CYAD-01, an autologous NKG2D-based CAR-T therapy, is currently being evaluated in several Phase 1 clinical trials to assess safety and clinical activity for the treatment of hematological malignancies, such as acute myeloid leukemia, and solid cancers, such as metastatic colorectal cancer. Celyad is also developing CYAD-101, an investigational, non-gene edited, allogeneic (donor derived) NKG2D-based CAR-T therapy, which is currently being evaluated in a Phase 1 trial for the treatment of patients with metastatic colorectal cancer. Celyad was founded in 2007 and is based in Mont-Saint-Guibert, Belgium, and New York, NY. Celyad's ordinary shares are listed on the Euronext Brussels and Euronext Paris exchanges, and its American Depository Shares are listed on the Nasdaq Global Market, all under the ticker symbol CYAD.

For more information, please contact:

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Forward-looking statements

This release may contain forward-looking statements, including statements regarding: the safety and clinical activity of CYAD-01, CYAD-02 and CYAD-101; the OptimAb manufacturing process; statements regarding the ongoing and planned clinical development of CYAD-01, CYAD-02 and CYAD-101, including the timing of trials, enrollment, data readouts and presentations; the clinical and commercial potential of CYAD-01, CYAD-02 and CYAD-101; and the ongoing and planned clinical and commercial potential and development of its shRNA technology. Forward-looking statements may involve known and unknown risks, uncertainties and other factors which might cause actual results, financial condition and liquidity, performance or achievements of Celyad, or industry results, to differ materially from those expressed or implied by such forward-looking statements. In particular it should be noted that the data summarized above are preliminary in nature. There is limited data concerning safety and clinical activity following treatment with the CYAD-01 and CYAD-101 drug product candidates and CYAD-02 has not yet been evaluated in clinical trials. Our therapeutic candidates manufactured using our OptimAb process have not yet been evaluated in clinical trials. Prior clinical and preclinical results may not be repeated or observed in ongoing or future clinical

studies involving the CYAD-01, CYAD-02 and CYAD-101 drug product candidates. These forward-looking statements are further qualified by important factors and risks, which could cause actual results to differ materially from those in the forward-looking statements, including statements about: the initiation, timing, progress and results of our preclinical studies and clinical trials, and our research and development programs; our ability to advance drug product candidates into, and successfully complete, clinical trials; our ability to successfully manufacture drug product for our clinical trials, including with our mAb manufacturing process and with respect to manufacturing drug product with the desired number of T cells under our clinical trial protocols; our reliance on the success of our drug product candidates, including our dependence on the regulatory approval of CYAD-01, CYAD-02 and CYAD-101 in the United States and Europe and subsequent commercial success of CYAD-01, CYAD-02 and CYAD-101, both of which may never occur; the timing or likelihood of regulatory filings and approvals; our ability to develop sales and marketing capabilities; the commercialization of our drug product candidates, if approved; the pricing and reimbursement of our drug product candidates, if approved; the implementation of our business model, strategic plans for our business, drug product candidates and technology; the scope of protection we are able to establish and maintain for intellectual property rights covering our drug product candidates and technology; our ability to operate our business without infringing, misappropriating or otherwise violating the intellectual property rights and proprietary technology of third parties; cost associated with enforcing or defending intellectual property infringement, misappropriation or violation; product liability; and other claims; regulatory development in the United States, the European Union, and other jurisdictions; estimates of our expenses, future revenues, capital requirements and our needs for additional financing; the potential benefits of strategic collaboration agreements and our ability to maintain and enter into strategic arrangements; our ability to maintain and establish collaborations or obtain additional grant funding; the rate and degree of market acceptance of our drug product candidates, if approved; our financial performance; developments relating to our competitors and our industry, including competing therapies and statements regarding future revenue, hiring plans, expenses, capital expenditures, capital requirements and share performance. A further list and description of these risks, uncertainties and other risks can be found in Celyad's U.S. Securities and Exchange Commission (SEC) filings and reports, including in its Annual Report on Form 20-F filed with the SEC on April 5, 2019 and subsequent filings and reports by Celyad. Given these uncertainties, the reader is advised not to place any undue reliance on such forward-looking statements. These forward-looking statements speak only as of the date of publication of this document and Celyad's actual results may differ materially from those expressed or implied by these forward-looking statements. Celyad expressly disclaims any obligation to update any such forward-looking statements in this document to reflect any change in its expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based, unless required by law or regulation.