

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
20 August 2020 (20.08.2020)



(10) International Publication Number
WO 2020/165111 A1

- (51) **International Patent Classification:**
H04L 9/32 (2006.01) *G06Q 10/08* (2012.01)
- (21) **International Application Number:**
PCT/EP2020/053374
- (22) **International Filing Date:**
11 February 2020 (11.02.2020)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
19157030.8 13 February 2019 (13.02.2019) EP
- (71) **Applicant:** **MERCK PATENT GMBH** [DE/DE]; Frankfurter Strasse 250, 64293 Darmstadt (DE).
- (72) **Inventors:** **ENDRESS, Thomas**; Waldsaumstrasse 11, 81377 MUENCHEN (DE). **SZABO, Daniel**; Am Kaiserkai 31, 20457 HAMBURG (DE). **BERKERMANN, Freder-**

ic; Auf der Hardt 58, 64291 DARMSTADT (DE). **MEL-GAREJO DIAZ, Natali**; Kattreinstrasse 3C, 64295 DARMSTADT (DE). **BRAZEL, Carl Christian**; Wilhelminenstrasse 47, 64283 DARMSTADT (DE). **PLATZOEDER, Michael**; c/o Kanzlei Wallinger Ricker Schlotter Tostmann, Zweibrueckenstrasse 5-7, 80331 MUENCHEN (DE).

(81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(54) **Title:** METHODS AND SYSTEMS FOR TOKEN-BASED ANCHORING OF A PHYSICAL OBJECT IN A DISTRIBUTED LEDGER ENVIRONMENT

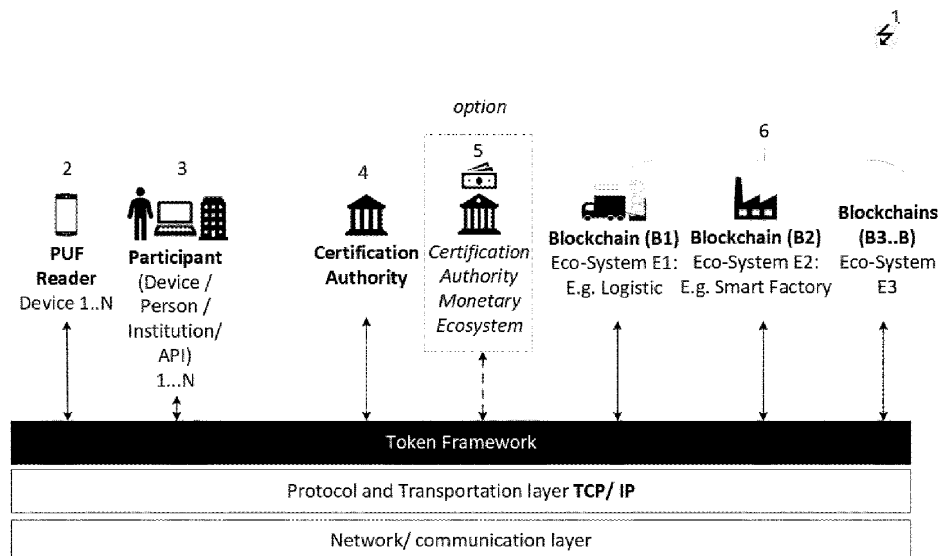


FIG. 1

(57) **Abstract:** The invention relates to a computer-implemented method, system and computer program for tokenization of a physical object. The method comprises generating or receiving object identification data based on an inspection of the physical object, the object identification data comprising at least one cryptographic hash value as a collision-resistant virtual representation of the physical object; and generating a non-certified token being assigned to the physical object and representing the object identification data. The invention further relates to a computer-implemented method, system and computer program of certifying a token including object identification data. Moreover, the invention relates to a computer-implemented method, system and computer program of tokenization of a process.

[Continued on next page]

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))