

HITSZ-OU
Design Workshop
Shenzhen & Osaka: The New and The Old

June 24 - July 3, 2019
TechnoAlliance Complex
Suita Campus

June 24, 2019

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Contents

- Overview
- Member
- Venue
- Schedule
- Theme

Overview

- **Date:** June 24 - July 3, 2019.
- **Contents:** International student teams explore urban renewal design from many aspects using Computational design, BIM (Building Information Modeling), GIS (Geographical Information System), and XR (Virtual, Augmented and Mixed Reality) technologies.
- The workshop helps students acquire expert skills and develop international perspectives.

<https://hitsz-ou-workshop.jimdosite.com/>



Member

Harbin Institute of Technology, Shenzhen

- Assistant Prof. Dr. Sky Tian Tian Lo, Dr. Yang Xi
- 5 Master, 10 Bachelor students

Osaka University

- Associate Prof. Dr. Tomohiro Fukuda
- 1 Doctor, 3 Master, 6 Bachelor students

- Associate Prof. Dr. Shigeki Matsubara (*Midterm presentation*)
- Associate Prof. Dr. Kensuke Yasufuku (*Midterm & Final presentation*)

本部事務機構等 Administration Bureau

- 1 大阪大学本部 Administration Bureau
- 2 コンベンションセンター Convention Center
- 3 ICホール IC Hall (Intercultural Collaboration Hall)
- 4 国際教育交流センター Center for International Education and Exchange
- 5 生命科学図書館 Life Sciences Library
- 6 理工学図書館 Science and Engineering Library
- 7 共創イノベーション棟 Co-Creative Innovation Building

医・歯・薬学系部・病院 Medicine / Dentistry / Pharmacology Sciences / Hospital

- 10 医学部/医学系研究科 Faculty of Medicine / Graduate School of Medicine
- 11 銀杏会館 Ginkgo Hall
- 12 医学部附属病院 Osaka University Hospital
- 13 看護士宿舎 Nurse Housing
- 14 医学部保健学科/医学系研究科保健学専攻 Division of Health and High Science / Graduate School of Medicine
- 15 歯学部/歯学研究科 School of Dentistry / Graduate School of Dentistry
- 16 歯学部附属病院 Osaka University Dental Hospital
- 17 薬学部/薬学研究科 School of Pharmaceutical Sciences / Graduate School of Pharmaceutical Sciences

研究センター等 Research Centers

- 40 環境安全研究管理センター Research Center for Environmental Preservation
- 41 R総合センター Radiosotope Research Center
- 42 レーザー科学研究所 Institute of Laser Engineering
- 43 サイバーメディアセンター 吹田教育実習棟 Cybermedia Center, Suita Educational Training Center
- 44 サイバーメディアセンター 本館 Cybermedia Center, Main Hall
- 45 超高分電子顕微鏡センター Research Center for Ultra-High Voltage Electron Microscopy
- 46 核物理研究センター Research Center for Nuclear Physics (RCNP)
- 47 産学共創A棟 Office for Industry-University Co-Creation (Bldg. A)
- 48 産学共創B棟 Office for Industry-University Co-Creation (Bldg. B)
- 49 産学共創C棟 Office for Industry-University Co-Creation (Bldg. C)
- 50 産学共創D棟 Office for Industry-University Co-Creation (Bldg. D)
- 51 超伝導フォトンクス研究棟 Research Bldg. for Superconductivity Photonics
- 52 低温センター Low Temperature Center
- 53 生物工学国際交流センター International Center for Biotechnology
- 54 テクノアライアンスA・B棟、C棟 TechnoAlliance Complex
- 55 グローバルイニシアティブ・センター CENTER FOR GLOBAL INITIATIVES
- 56 免疫学フロンティア研究センター Immunology Frontier Research Center
- 57 フォトンクスセンターP3棟 Photonics Center P3
- 58 脳情報通信融合研究センター(CiNet) Center for Information and Neural Networks
- 59 最先端医療融合イノベーションセンター(CoMIT) Center of Medical Innovation and Translational Research

工学部・人間科学部 School of Engineering / School of Human Sciences

- 20 工学部/工学研究科 School of Engineering / Graduate School of Engineering
- 21 人間科学部/人間科学研究科 School of Human Sciences / Graduate School of Human Sciences
- 22 21世紀プラザ 21st Century Plaza

研究所等 Research Institutes

- 30 社会経済研究所 Institute of Social and Economic Research
- 31 接合科学研究所 Joining and Welding Research Institute
- 32 産業科学研究所 The Institute of Scientific and Industrial Research
- 33 蛋白質研究所 Institute for Protein Research
- 34 微生物病研究所 Research Institute for Microbial Diseases

福利・課外活動施設等 Welfare & Extracurricular Activities Facilities

- 60 体育館 Gymnasium
- 61 保健センター(HACC吹田) Health and Counseling Center (HACC Suita)
- 62 本部前福利会館(食堂・売店) Cafeteria and Campus Store
- 63 本部南棟(食堂・売店) Restaurant (Sawabiki)
- 64 職員会館(食堂・売店) Restaurant (Sawabiki)
- 65 センテラス(食堂・売店) Central Terrace
- 66 春日丘ハウス Kaenosaka House
- 67 たけのご保育園 Takenosaka Nursery School
- 68 まさほ保育園 Masahiko Nursery School
- 69 ポプラ通り福利会館 Poplar Street Shop and Cafeteria
- 70 国際交流会館 吹田分館 International House, Suita

大学院研究科等 Graduate Schools

- 7 生命機能研究科 Graduate School of Frontier Biosciences
- 8 情報科学研究科 Graduate School of Information Science and Technology
- 9 連合小児発達学研究科 United Graduate School of Child Development

- 18 喫茶・食堂 Restaurant 喫茶店・食堂
- 19 郵便局 Post Office
- 23 キャッシュ/ディスペンサー Cash Dispenser



- 4 大阪モノレール阪大病院前駅 Handai-byoin-mae Sta. of Osaka Monorail
- 5 タクシー乗り場 Taxi 吹田駅前乗場
- 6 バス停留場 Bus Stop 吹田駅前
- 7 学内連絡バス/停車場 Campus Shuttle Bus Stop 吹田駅前
- 8 阪急北千里駅 Kitasenri Sta. of Hankyu Line 吹田駅前
- 9 AED設置建物 AED (Automated External Defibrillator) 吹田駅前
- 10 主な急勾配の坂道 Main Steep Slope 吹田駅前



Venue

- TechnoAlliance Complex
- Interexchange space (1st Floor)



Schedule

June 24 (Mon)

09:15 Arrive at Handai-Honbu-Mae Bus Stop

09:30 Meet at the workshop Venue

09:45-10:15 Opening Address & Information about Design Site (*Dr. Fukuda*)

10:15-10:45 Presentation (*Dr. Tian Tian Lo (Sky Lo)*)

10:50-11:20 Presentation (*Osaka-U: 10 Students, 5 min. per team*)

11:20-12:10 Presentation (*HITSZ: Yang Xi & 15 Students, 5 min. per team*)

12:15-13:10 Campus & Labo tour

13:30-14:30 Lunch

14:30-17:30 Work by the team (*Site Analysis, Make Concept, Planning, and Design*)

17:30 Closing

June 25 (Tue) & 26 (Wed)

09:30 Meet at the Workshop Venue

09:30-17:00 Work by the team (*Site Analysis, Make Concept, Planning, and Design*)

17:00-17:30 First/Second intermediate presentation (3 min.)

17:30 Closing

June 27 (Thr)

09:30 Meet at the Workshop Venue

09:30-16:30 Work by the team (*Site Analysis, Make Concept, Planning, and Design*)

16:30-17:30 Midterm (Third intermediate) presentation (5 min.)

17:30 Closing

June 28 (Fri)

Technical Tour

09:40 Meet at Osaka Metro Tanimachi-6-Chome St. No.1 EXIT (In front of Daily Yamazaki (Convenience Store) on Ground Level)

10:00-12:00 Visit [NEXT 21](#) (*Sustainable apartment building*)

14:30-16:00 Visit [FORUM8](#) Osaka (*VR, BIM, and Advanced Information Technology company*)

16:30-18:30 Visit [Heart Beat Plan](#) (*Urban Planning Consultant company*)
During HBP visit, Let five teams present their mid-term presentation in three minutes. HBP members will give some valuable comments.

19:00- Social Gathering ([Green Cafe Kawano Station Hachikenyu](#))



July 1 (Mon)

09:30 Meet at the Workshop Venue

09:30-17:00 Work by the team (*Planning, Design, Presentation*)

17:00-17:30 Fourth intermediate presentation (*3 min.*)

17:30 Closing

July 2 (Tue)

09:30 Meet at the Workshop Venue

09:30-17:30 Work by the team (*Planning, Design, Presentation*)

17:30 Closing

July 3 (Wed)

09:30 Meet at the Workshop Venue

09:30-16:30 Work by the team (*Design, Presentation*)

17:30-19:00 Final presentation (*7 min.*)

19:00-20:30 Wrap-up Party (*Workshop Venue*)

Theme

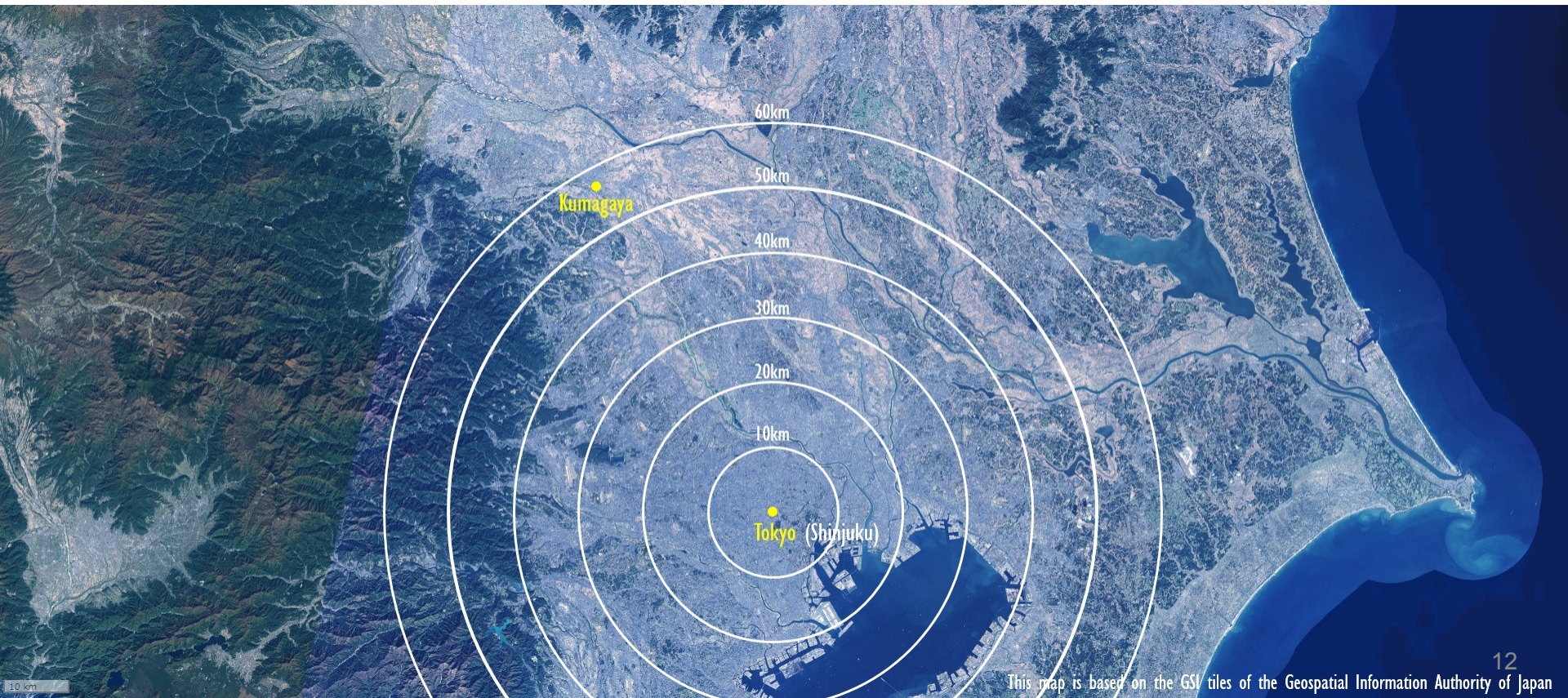
A Future of Kumagaya Distribution Center (熊谷流通センターの未来)

Background

- Japan tends to decrease the population, and to age in many aspects.
- The local city will appear in this phenomenon in earlier days.
- In contrast, since the so-called "super-smart society" is approaching in the near future through such innovations as industry 4.0 and society 5.0

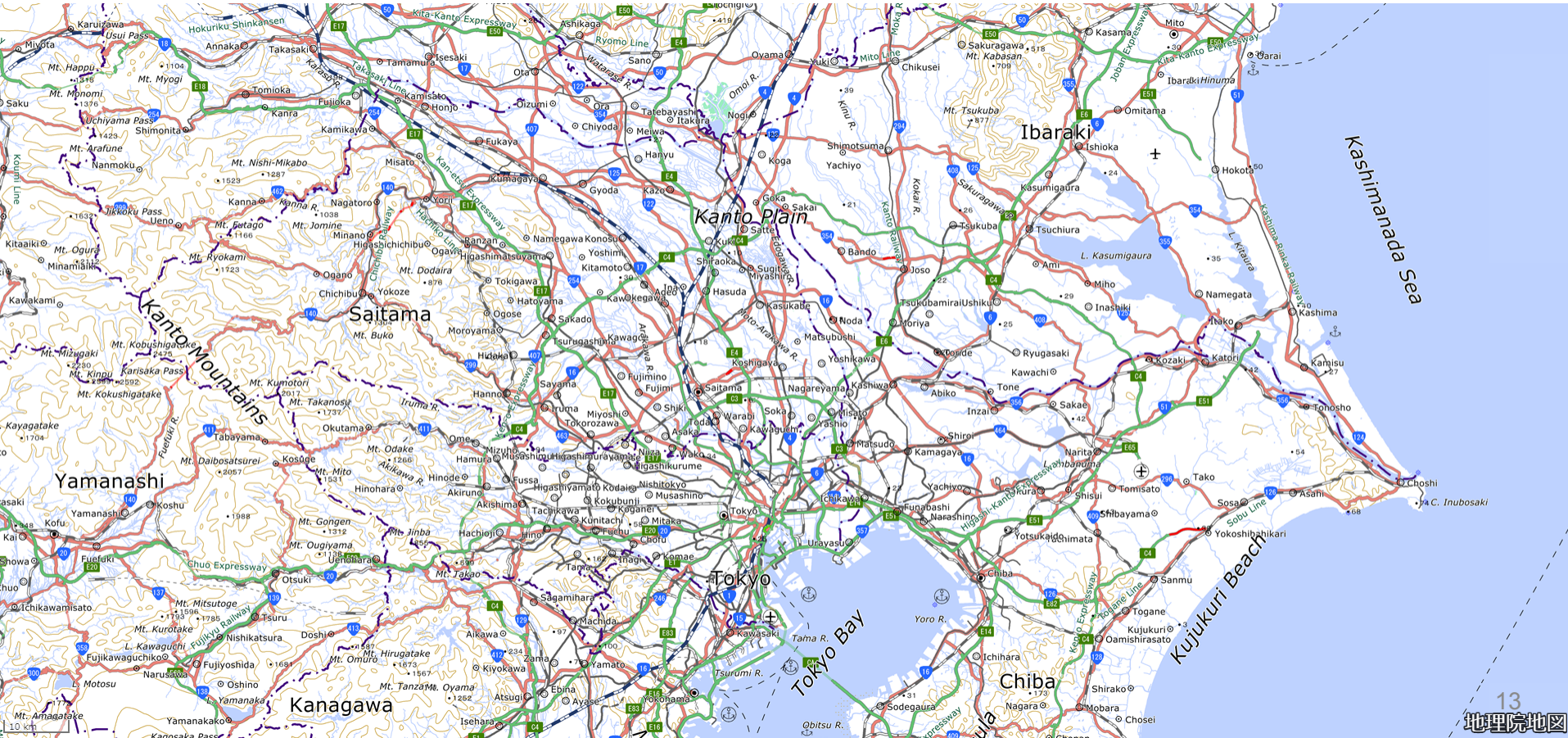
Kumagaya-city (熊谷市) -1

- Inland local city which locates 60 km north of Tokyo
- One of the largest cities in northern Saitama Prefecture (埼玉県北部地域)
- Current population: about 200,000



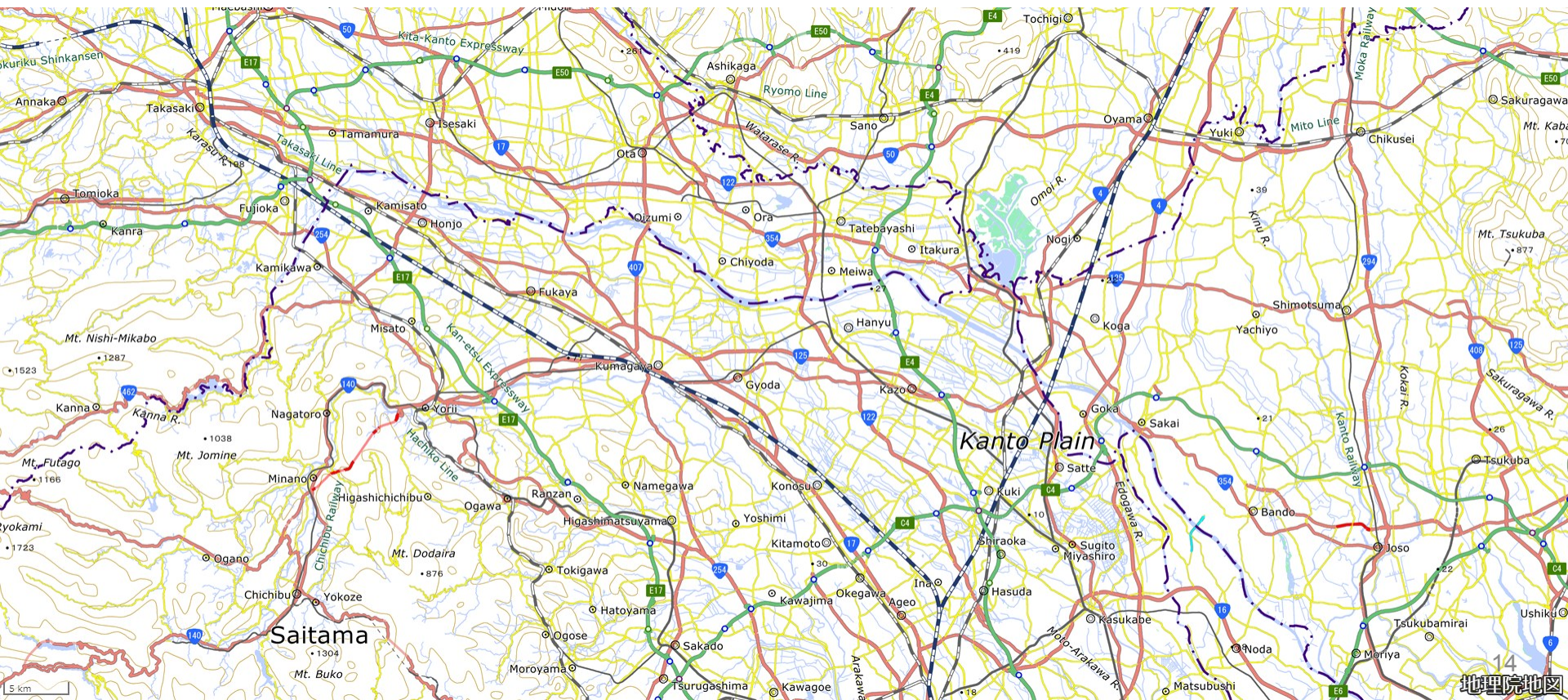
Kumagaya-city (熊谷市) -2

- On July 23, 2018, the city recorded an air temperature of 41.1 °C (the highest temperature in Japan)
- 2019 Rugby World Cup games will be held at the Kumagaya rugby stadium in Sep. and Oct. 2019.



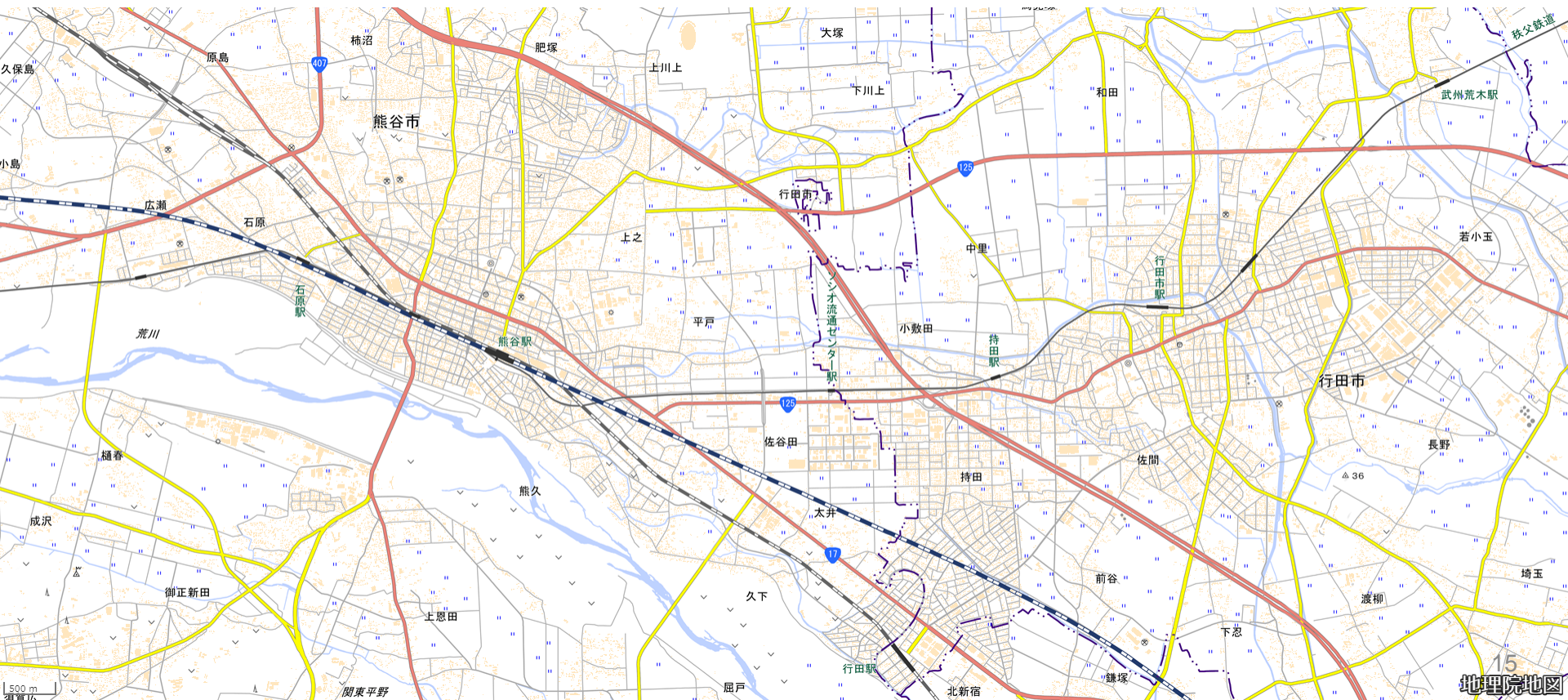
Kumagaya-city (熊谷市) -3

- Central Kumagaya locates between Tone River (利根川) and Arakawa River (荒川)
- Developed as a post town on the Nakasendo highway (中山道) during Edo period (1603-1868).



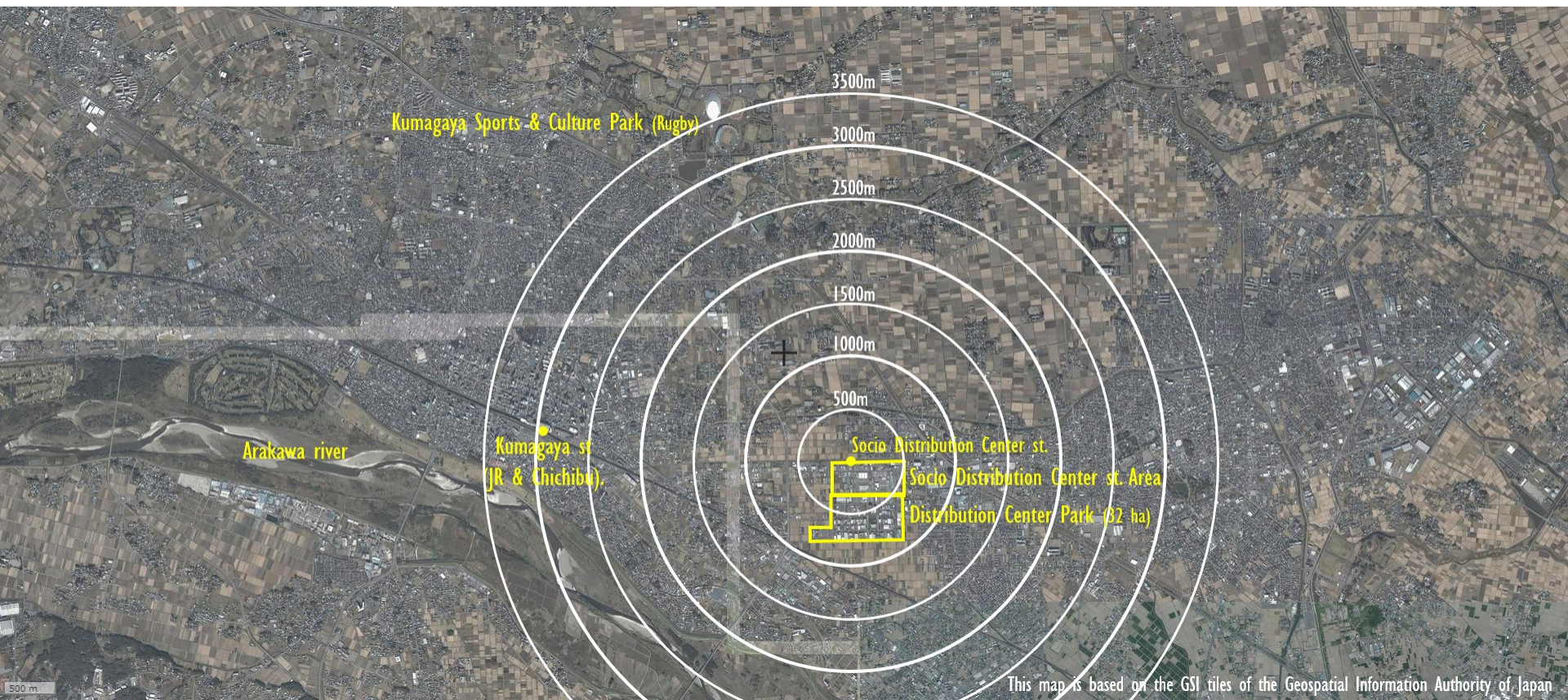
Kumagaya-city (熊谷市) -4

- An essential point of transportation.
 - Express highways (Kanetsu Expressway and Tohoku Expressway)
 - National highways (R17, R125, R140, and R407)
 - Railway lines (JR Joetsu Shinkansen, JR Takasaki-line, Chichibu Main Line)
 - 40 min. by shinkansen, and 80 min. by local train to Tokyo.



Kumagaya-city (熊谷市) -5

- During Meiji (1868-1912) and Taisho periods (1912-1926), Kumagaya developed as the sericultural industry city called "蚕都" in addition to the agriculture industry.

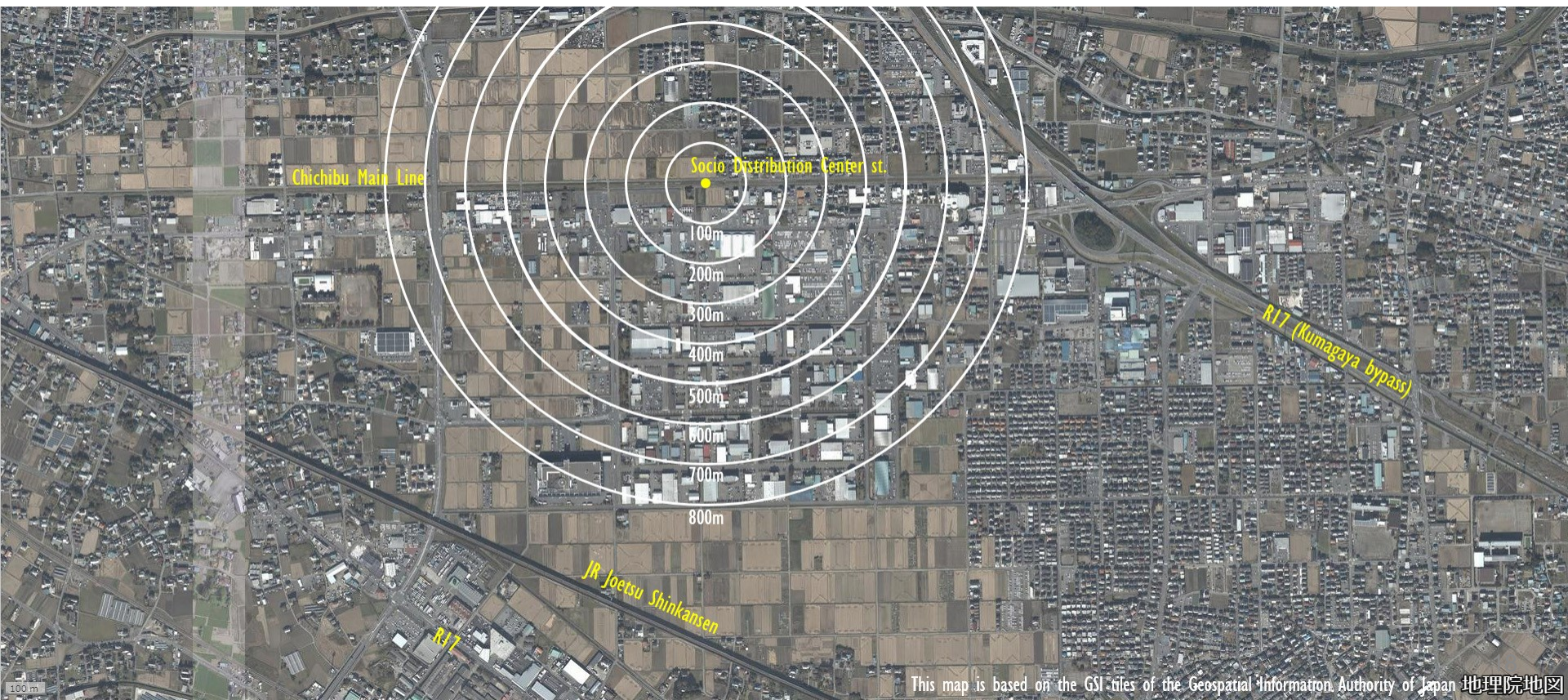


Kumagaya-city (熊谷市) -6

- Kumagaya involves in Kanto Inland Industrial Area (関東内陸工業地域).
- Categories
 - Machine industry (45.0%)
 - Food industry (15.5%)
 - Metallic industry (11.6%)
 - Chemical Industry (10.2%), etc.
- The shipment amount
 - The third in Japan (JPY 30 trillion)
 - Bigger than that of Keihin Industrial Zone (JPY 24.5 trillion)

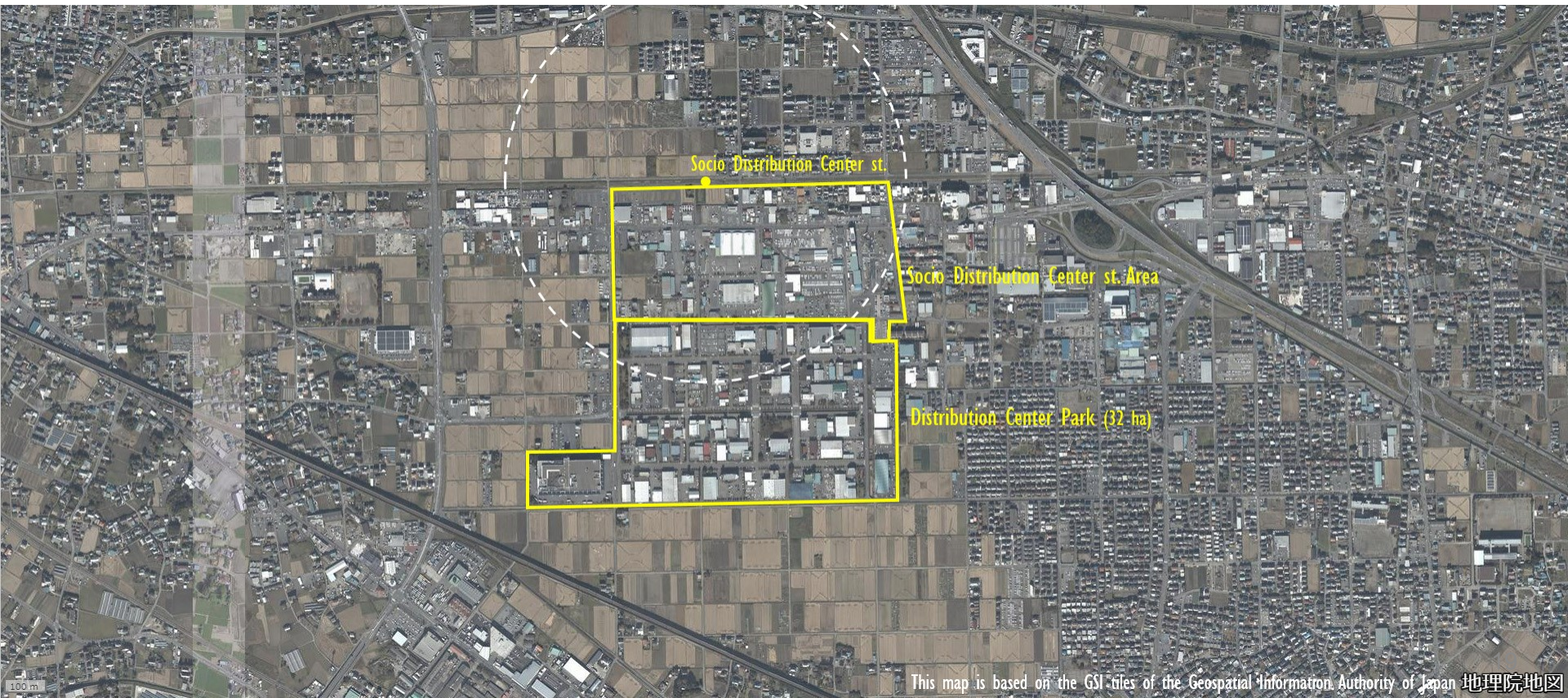
Design theme

- Re-design suburban area in local city
- Kumagaya Distribution Center and around the Socio Distribution Center Station (ソシオ流通センター駅).
- One stop from Kumagaya station via Chichibu Main Line (秩父鉄道秩父本線)



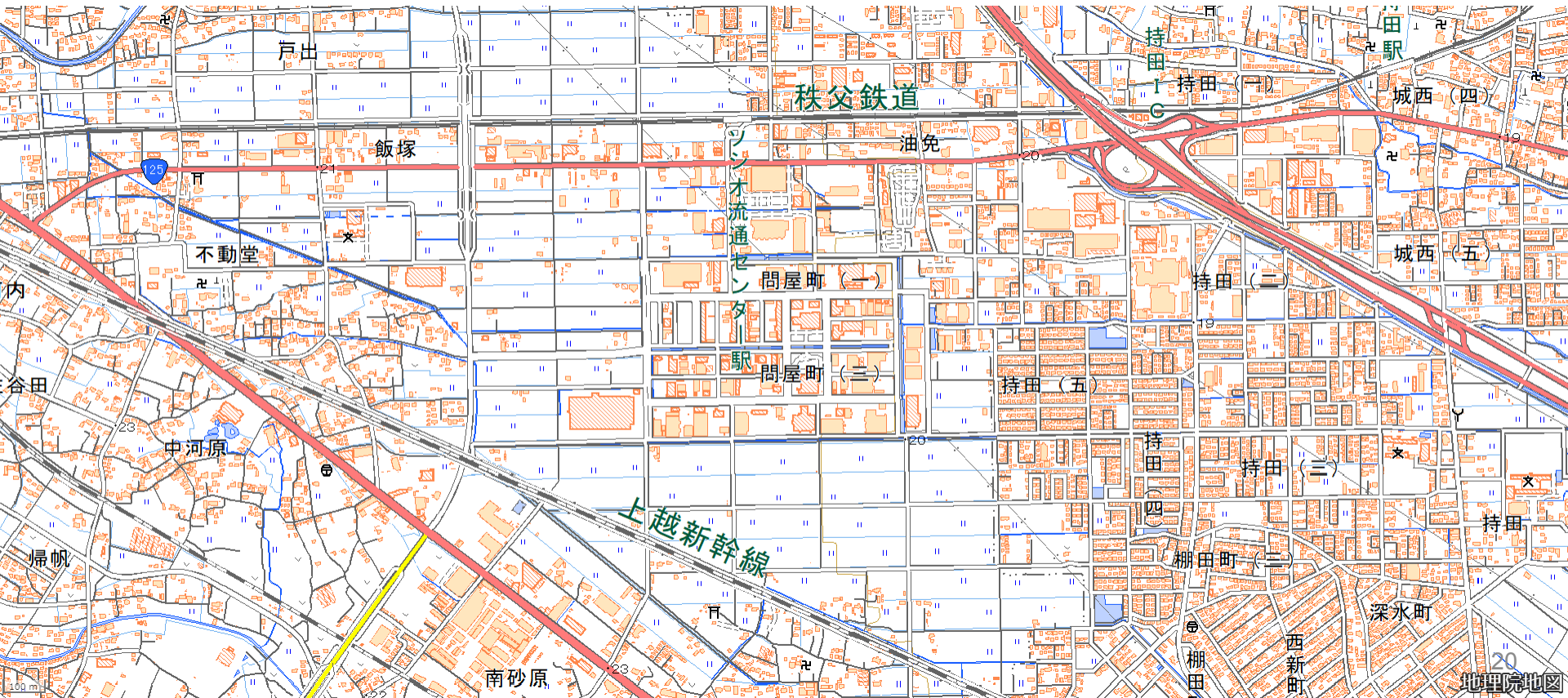
Kumagaya Distribution Center (協同組合 熊谷流通センター)

- Opened in the suburban area of Kumagaya in 1975
 - To solve urban problems in the downtown area
- A big wholesale complex and facilities becomes old.



Kumagaya Distribution Center (協同組合 熊谷流通センター)

- Due to the change in industrial structures, the wholesale industry needs to rethink its role.
 - Shift Traditional shopping streets to big supermarket, to convenience store system and web selling system.



Design theme

- How should the Kumagaya Distribution Center re-design in the near future in the aspects of space and utilization?
 - Urban and architectural design
 - Placemaking
 - Cooperation between the public and private sectors



Design theme

- Propose your cutting-edge design using digital technologies such as Generative design, BIM and GIS and demonstrate your proposal using XR (virtual/augmented/mixed reality).
- Urban integration should be considered during the renovation process. How will the renovation bring changes to the urban environment and the needs of the people in the surrounding?

Team A

A group to look and the history and culture

Virtual and Real Interaction -- Historical and Cultural Reproduction

Cui WeiQiang (Leader, M2) Zhu ZiXuan (B2) Li XiangMing (B2)

Muhammad Hegazy (Leader, D1), Kento Oguchi (B4)

Team B

A group to look at the urban elements

Comparison of Urban Streets Design

Zhang YeMing (Leader, M2) Zhang XinWang (B2) Wei RuJi (B2)

Mizuki Nakabayashi (Leader, B4), Naoki Kikuchi (B4)

Team C

A group to look at the streets

Urban Spatial Structure Evolution

Zhu ShunJie (Leader, M2) Amelia Liu (B2) Liang XiaoLin (B2)

Daiki Kido (Leader, M2), Katsuhisa Deto (B3)

Team D

A group to look at the local demographics

Population Demand and Spatial Vitality

Wang JiaQi (Leader, M2), Liu RuiLing (B2), Tang XiaoHan (B2)

Kazunosuke Ikeno (Leader, M1), Totaro Yoshinori (B4)

Team E

A group to look at the spatial evolution

Reconstructing using Elements of Town and Cities

Wang MengHan (Leader, M2), Wu JinXuan (B2), Wu ChengJia (B2)

Daichi Ishikawa (Leader, M1), Chen Taishan (B3)