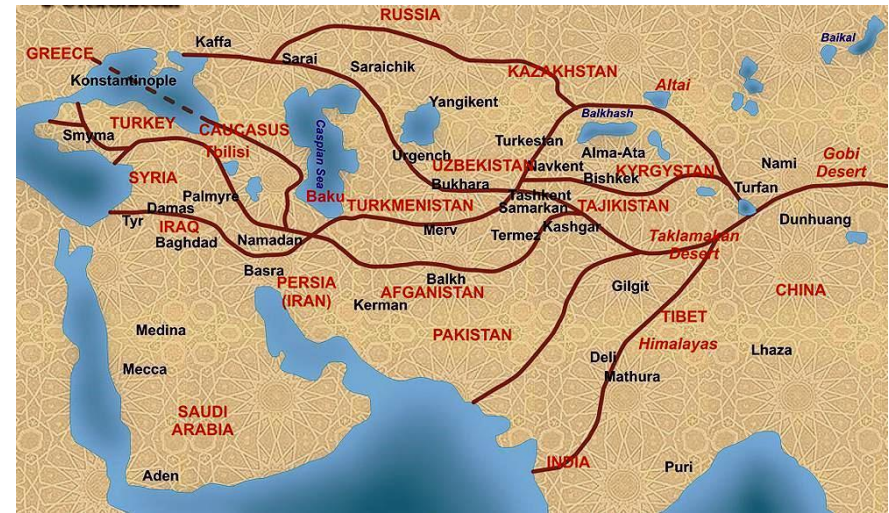# Addressing Land Administration and Management Opportunities:
A Land Locked Country's Perspective
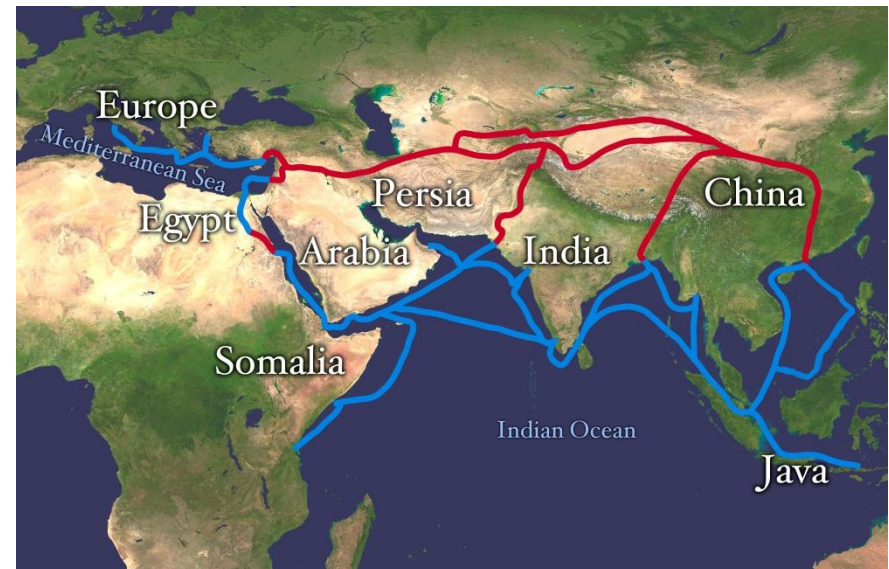
KAZAKHSTAN

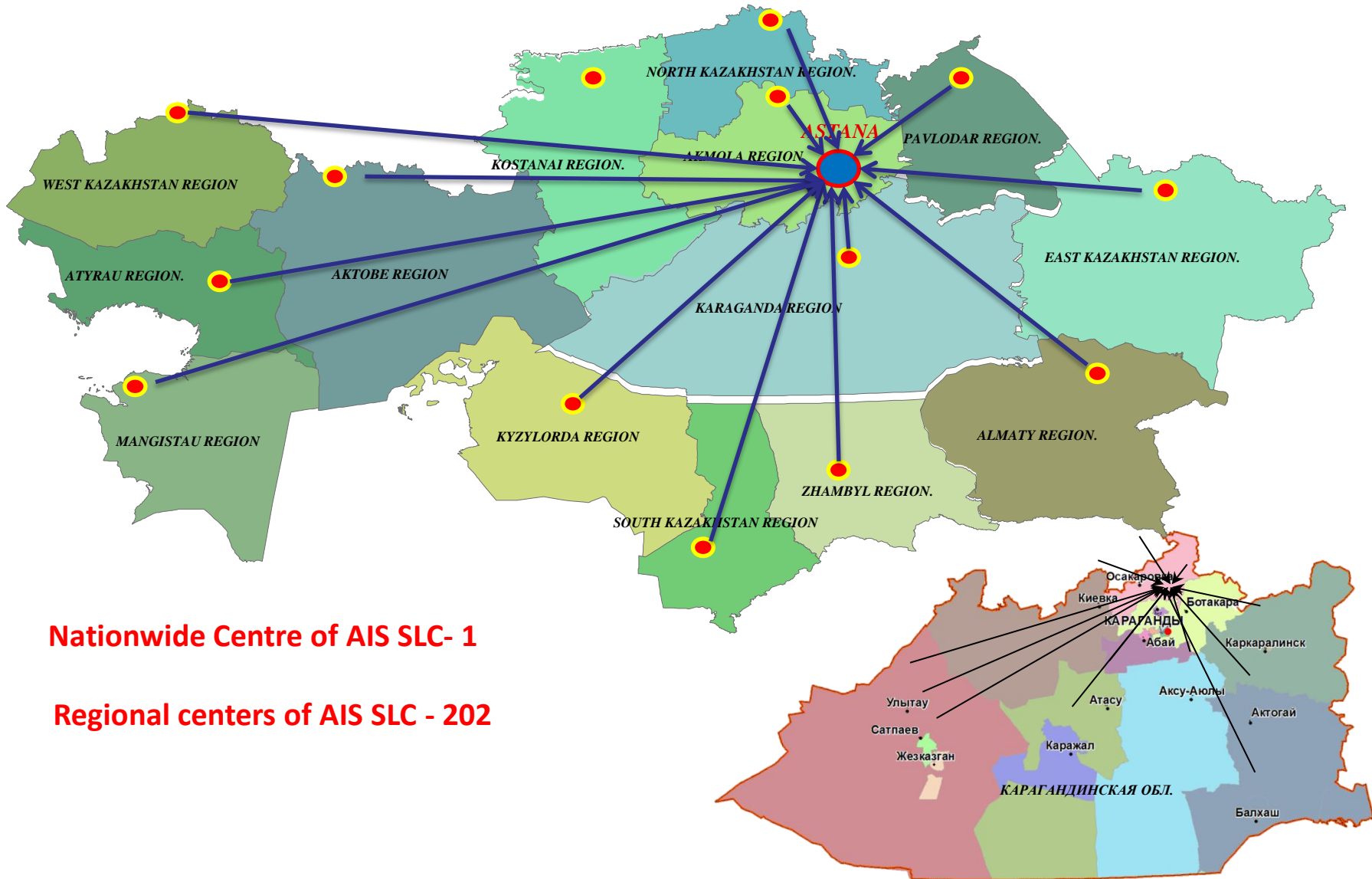**Kazakhstan**
Land Locked Country

Area   2,724,900 km^2

Population   17,500,000

GDP (nominal) 232.4 $ billion

Organizational structure of AIS State Land Cadaster Maintenance

NORTH KAZAKHSTAN REGION.

ASTANA

PAVLODAR REGION.

AKMOLA REGION.

KOSTANAI REGION.

WEST KAZAKHSTAN REGION

EAST KAZAKHSTAN REGION.

ATYRAU REGION.

AKTOBE REGION.

KARAGANDA REGION.

MANGISTAU REGION

KYZYLORDA REGION

ALMATY REGION.

ZHAMBYL REGION.

SOUTH KAZAKHSTAN REGION

Осакаровка
Киевка
Ботакара
КАРАГАНДЫ
Абай
Каркаралинск
Улытау
Атасу
Аксу-Аюлы
Актогай
Сатпаев
Каражал
Жезказган
КАРАГАНДИНСКАЯ ОБЛ.
Балхаш

Nationwide Centre of AIS SLC- 1

Regional centers of AIS SLC - 202

Information basis for the Land Cadaster

Customer	
	First name, last name (name of company)
	Date of birth (incorporation)
	Registration address
	Identity documents
	IIN/BIN

AIS SLC

Land parcel		
	Cadaster number	
	Address (location)	
	Floor area	
	Designation purpose	
	Land category	
	Cadaster (evaluated) cost	
	Limitations and encumbrances	
	Registered title	**Decision to grant the title**
		State Act (identification document)
		Expiry date (for rent)

Land parcels

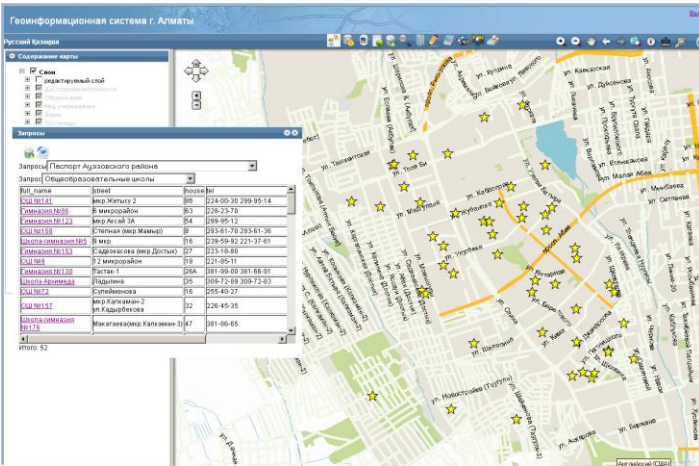## Accounting cadastral quarters

Administrative borders of districts

Planning cartographic basis:
Materials of aerial survey of different succeeding scale.
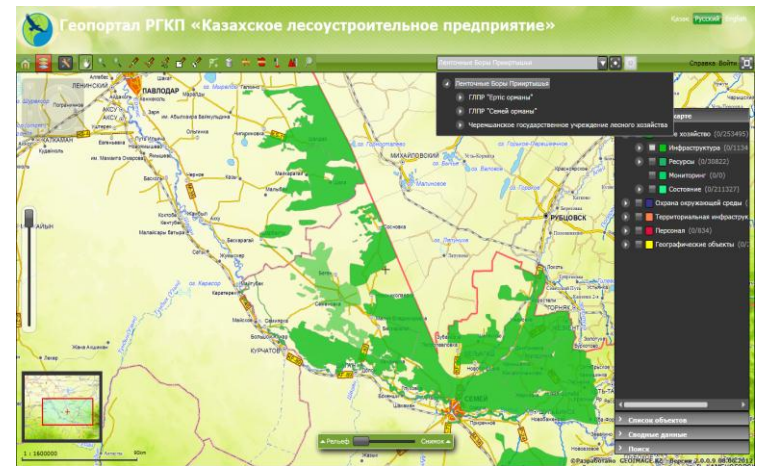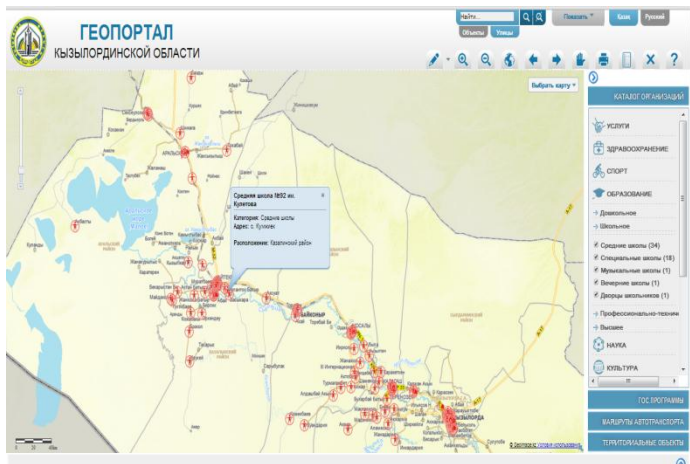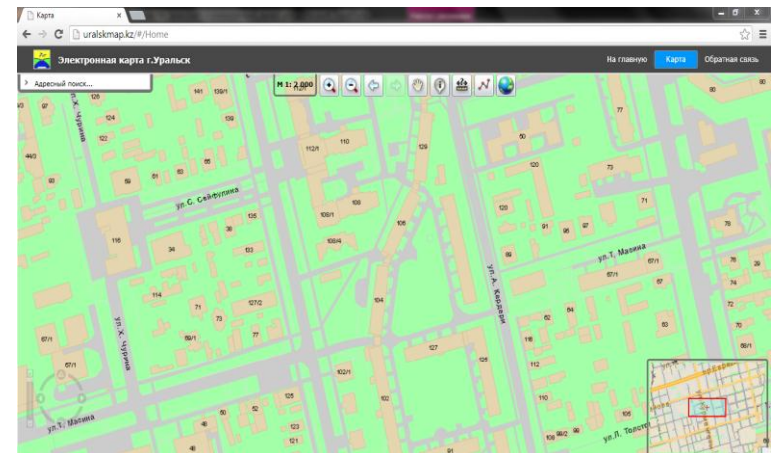*Satellite images of different spatial resolution.*

GOVERNMENT AGENCIES' GIS

ALMATY CITY GEO-INFORMATION SYSTEM
Owner: ALMATY CITY AKIMAT

FORESTRY & HUNTING SECTOR INFORMATION SYSTEM
Owner: MINISTRY OF AGRICULTURE

GEO-PORTAL OF KYZYLORDA REGION
Owner: KYZYLORDA REGION AKIMAT

STATE TOWN-PLANNING CADASTER
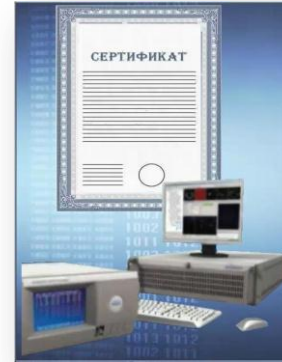**Owner: URALSK CITY AKIMAT**

High-accuracy satellite navigation system of the Republic of Kazakhstan (HSNS RK)

HSNS RK – automated system of GLONASS, NAVSTAR and GALILEO global navigation satellite augmentation systems is designed to form the conditions of guaranteed quality coordinate-time and navigation services to be obtained by consumers of GNSS information in the territory of the Republic of Kazakhstan
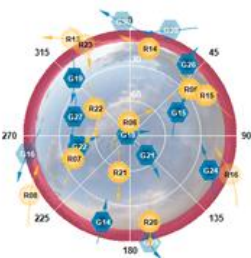
Differential stations network (DS)

Conformity assessment laboratory of satellite navigation (CAL)

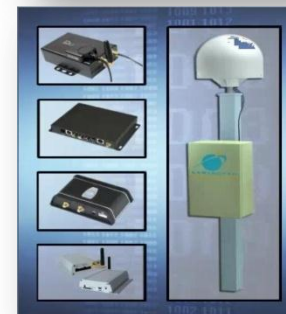**Differential correction and monitoring center (DCMC)**

Marine local differential station (MLDS)

Mobile differential station (MDS)
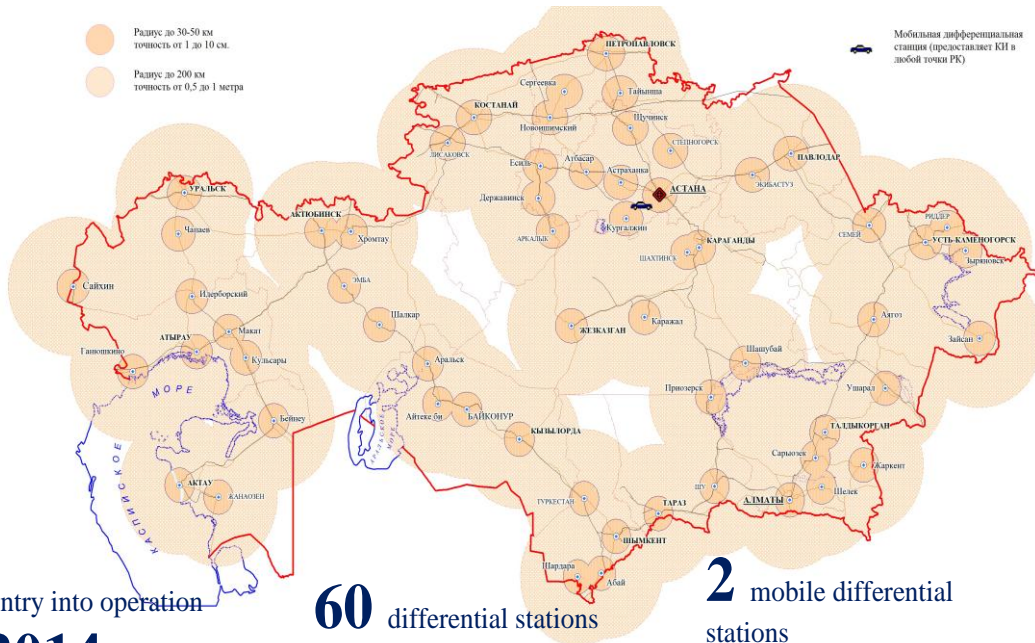
Pilot manufacturing of navigation equipment (PM)

USE OF SPACE TECHNOLOGY

Differential station of HSNS RK

Entry into operation
2014 year

60 differential stations

2 mobile differential stations

Marine differential station of HSNS RK

Entry into operation
2014 year

Radius of action - **300** km

The resulting accuracy of coordinates
1 m in real-time for **94 %** of the territory of RK
2 cm in real-time for **18 %** of the territory of RK
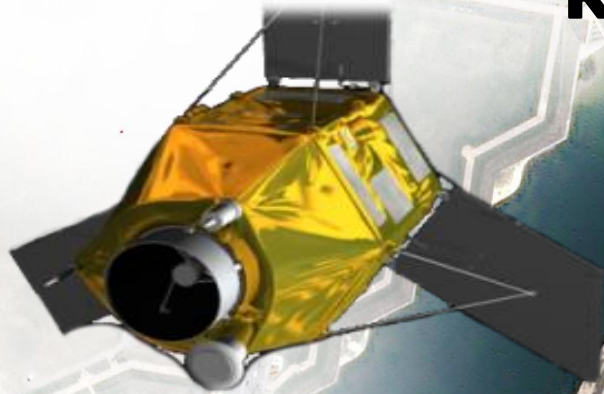**< 1** cm in postprocessed mode

2 m positioning accuracy of the sea
1 m positioning accuracy in the coastal zone

Earth remote sensing cosmic system of the Republic of Kazakhstan

KazGeoSat-1

Spatial resolution: -**1m**
Imagery mode: Panchromatic, Multispectral
Scene size: **20 x 20 km**
Imagery frequency: **3 to 5 days**
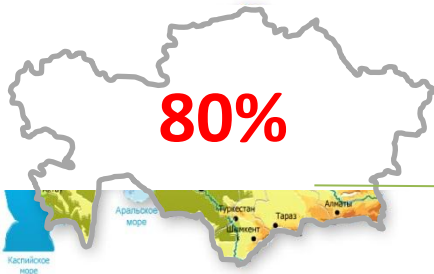Productivity **220 000 sq.km per day**

KazGeoSat-2

Spatial resolution: **6.5m**
Imagery mode: Multispectral
Scene size: **77 x 77 km**
Imagery frequency: **3 to 5 days**
Productivity **1 000 000 sq.km per day**

Current Situation

80%

According to Committee for Construction, Housing & Utilities Sector and Land Resource Management, nearly

80% maps are inconsistent with actual status of local area and with toponymy

- **No uniform formats** of maps and the coordinates systems to be used; no interchange of maps.
- **Duplication of works** (costs) for creation of identical maps by different agencies

86

According to Kazakh Research Institute for Construction & Architecture, town-planning cadasters with digital maps were created in only 8 cities of 86.

In Kazakhstan, there are altogether 223 cities/towns and townships, and also 6936 rural localities.

8

Services based on maps have hardly been automated (land, Housing & Utilities Sector, architecture, etc.)
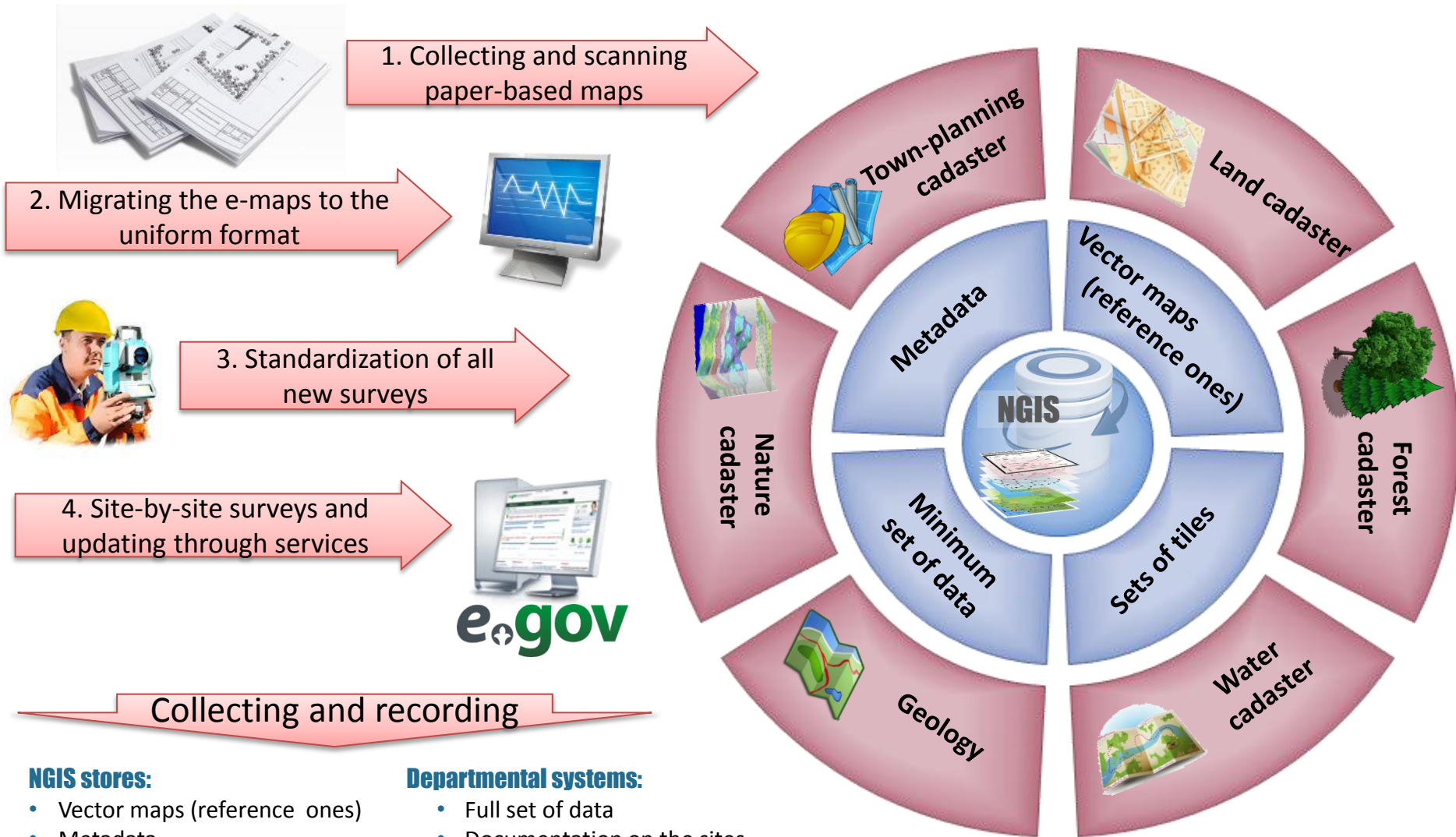
Doing Business

1. Hong Kong, China
2. Singapore

3. З Сан-Томе и Принсипи
4. Латвия
5. Сейшельские Острова
6. Оман
7. Люксембург
8. Беларусь
9. Коста-Рика
10. Бруней-Даруссалам
11. Марокко
12. Свазиленд
13. Исландия
14. Самоа
15. Португалия
16. Эквадор
17. Шри-Ланка
18. Колумбия
19. Чили
20. Панама
21. Бенин
22. Кирибати
23. Палау
24. Ангола
25. Яменская Республика
26. Белиз
27. Украина
28. Гамбия
29. Малави
30. Фиджи
31. Монголия
32. Буркина-Фасо
33. Габон
34. Мадагаскар
35. Австрия
36. Суринам
37. Вануату
38. Армения
39. Бельгия
40. Япония
41. Маldивы
42. Тунис
43. Гондурас
44. Перу
45. Греция
46. Македония, БЮР
47. Словения
48. Непал
49. Багамские Острова
50. Ботсвана
51. Экваториальная Гвинея
52. Кения
53. Доминиканская Республика
54. Мали
55. Кувейт
56. Замбия
57. Нидерланды
58. Болгария
59. Республика Конго
60. Венгрия
61. Гондурас
62. Испания
63. Гана
64. Лаосская Народно-Демо
65. кратическая Республика
66. Мексика
67. Мальта
68. Словакия
69. Демократическая Рест
70. публика Конго
71. Сан - Марино
72. Тринидад и Тобаго
73. Кабо-Верде
74. Тимор-Лешти (Восточн
75. ый Тимор)
76. Италия
77. Маврикий
78. Канада
79. Катар
80. Сьерра-Леоне
81. Израиль
82. Гватемала
83. Чад
84. Филиппины
85. Пакистан
86. Иордания
87. Алжир
88. Иорданиг
89. Боливия
90. Малави
91. Бутан
92. Гаити
93. Бурунди
94. Никарагуа
95. Косово
96. Турция
97. Польша
98. Черногория
99. Чешская Республика
100. Румыния
101. Папуа-Новая Гвинея
102. Египет
103. Либерия
104. Бангладеш
105. Центральноафриканск
106. ая Республика
107. Джибути
108. Барбадос
109. Катр
110. Узбекистан
111. Азербайджан
112. Сенегал
113. Венесуэла (Боливариан
114. ская Республика)
115. Индонезия

154 Kazakhstan

Эль-Сальвадор
Российская Федерация
Албания
Пуэрто-Рико (США)
Гвинея
Судан
Лесото
Уругвай
Уганда
Ливан

Total: 189 countries

DEALING WITH CONSTRUCTION PERMITS

Integration of existing systems

1. Collecting and scanning paper-based maps

2. Migrating the e-maps to the uniform format

3. Standardization of all new surveys

4. Site-by-site surveys and updating through services

e•gov

Collecting and recording

NGIS stores:
- Vector maps (reference ones)
- Metadata
- Minimum set of data
- Sets of tiles

Departmental systems:
- Full set of data
- Documentation on the sites
- Raster materials
- Non-normalized vector maps
- Archival and historical data
- Other departmental materials

Town-planning cadaster

Land cadaster

Vector maps (reference ones)

Metadata

NGIS

Nature cadaster

Forest cadaster

Minimum set of data

Sets of tiles

Geology

Water cadaster

INTERDEPARTMENTAL COOPERATION

NGIS operation chart

Citizens and businesses

Single data repository

Architecture

Workstation in agency
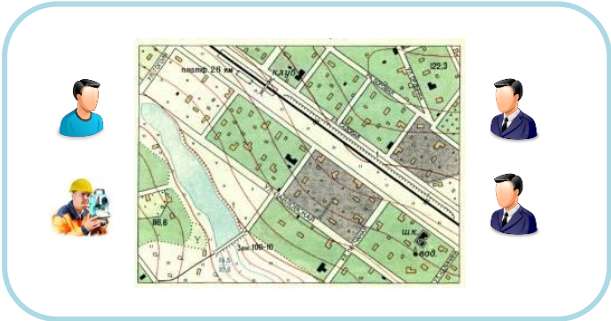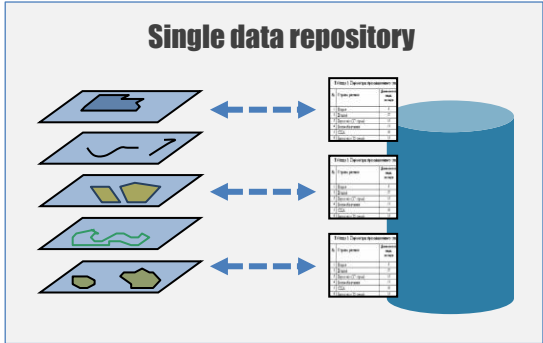
Land Relations Office/Sector
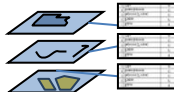
Housing & Utilities Sector
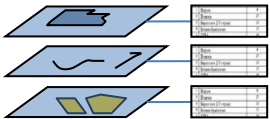
Services to citizens:
- Formalization (lands, buildings)
- Agreeing upon (projects, Architectural Planning Assignment, Detail Specifications, etc.)
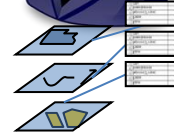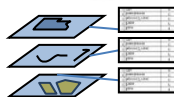- Permits

Agencies' functions:
- Recording (cadasters)
- Analytics
- Management

Economical and social effect

Self-updating map

100%

20%

Uniform formats

General map

Central and local government

Mobile applications and navigation

Transparency and control

Services

e-gov

DOING BUSINESS
MEASURING BUSINESS REGULATIONS

DEALING WITH CONSTRUCTION PERMITS

1.Hong Kong, China	1.Hong Kong, China
2. Singapore	2. Singapore

30 Kazakhstan

154 Kazakhstan

Total: 189

Total: 189

Thank you!