

The background of the slide is a close-up, high-angle shot of a large number of green lemons. The lemons are packed closely together, filling the entire frame. They have a vibrant green color with some natural variations in tone and texture on their skin. The lighting is soft, highlighting the round shape and the small stem at the top of each fruit.

**The smarter food vision:  
inclusive, safe, traceable**

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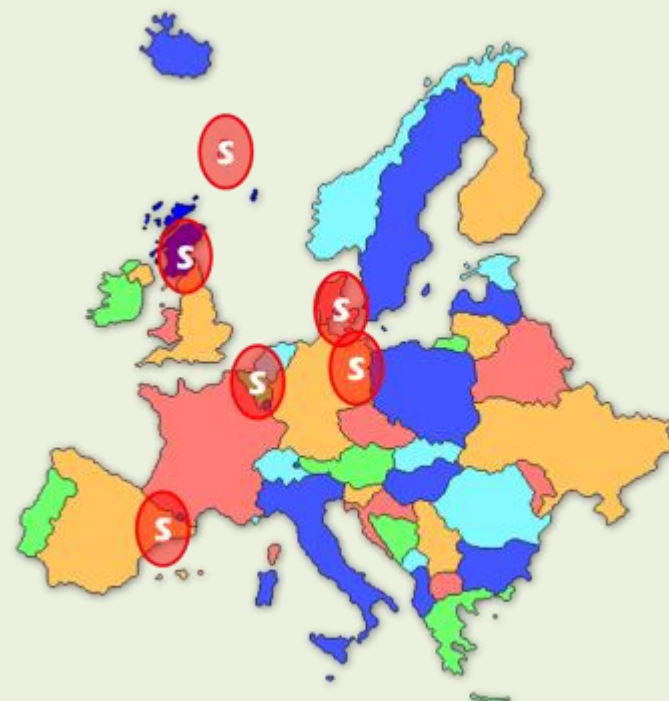
### Syntesa – Innovation to market

International consultancy bringing innovation to market.

Headquartered in Copenhagen with subsidiaries on Faroe Islands and Spain.

- Facilitate investor and grant funding
- Marketing of high tech products and services
- Management of innovative projects
- Socio-economic analysis and impact assessments

Our work is based on a hands-on approach providing expertise in financing, marketing, management and business development.



### Dr Heiner Lehr, a decade of traceability



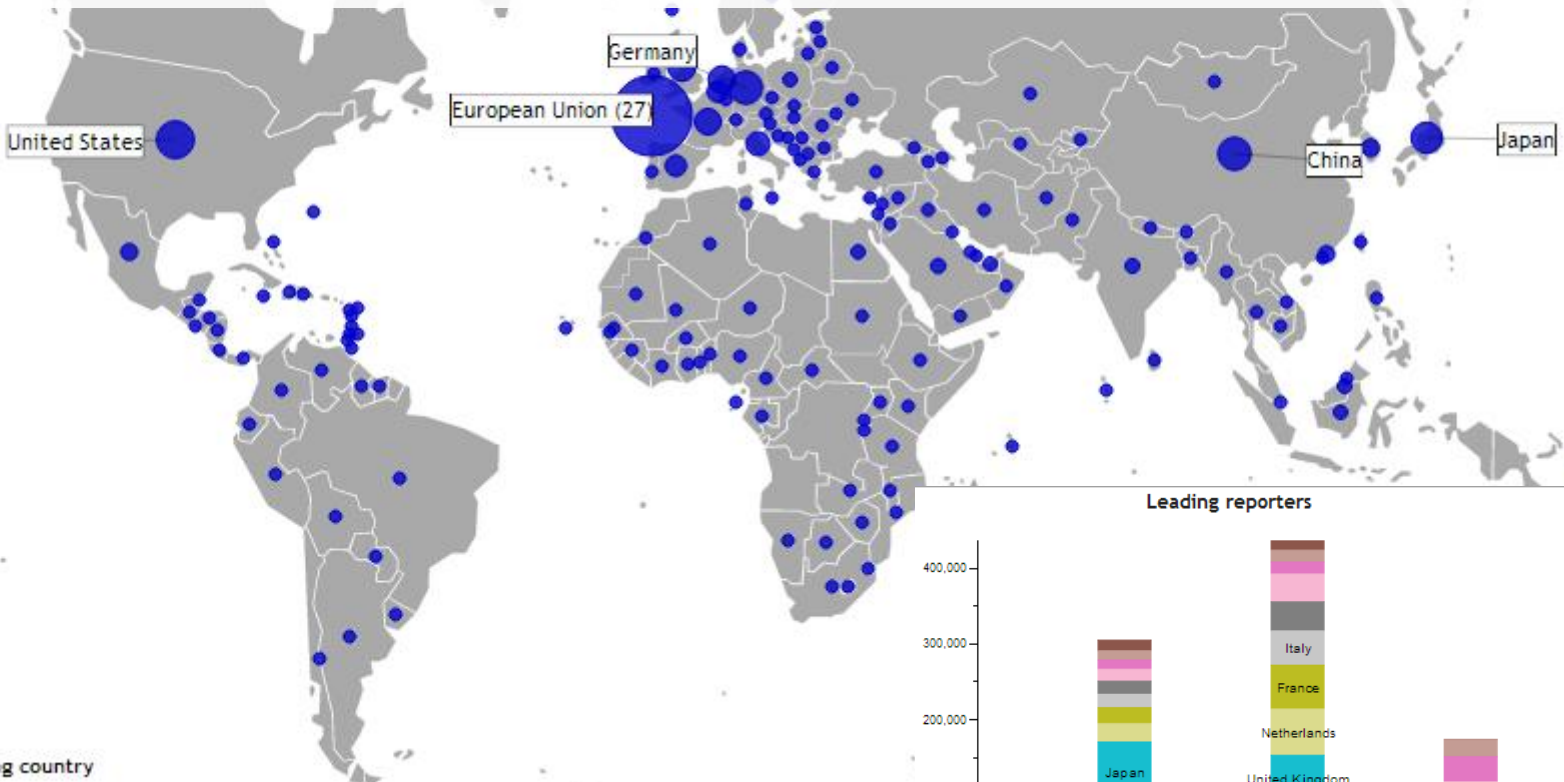
Co-founder of TraceCore XML  
Initiator of [www.foodtraceability.eu](http://www.foodtraceability.eu)  
Enterprise system provider for TRACE,  
Europe's largest traceability project.  
Technical lead of traceability projects in  
SE Asia, Middle East and Europe.  
Specialities in using traceability for  
sustainability monitoring and standard  
compliance.



EcoFishMan  
ALL-SMART-PIGS  
EU-PLF  
Benthis  
Macro Biotech  
Costal Fishing in  
the North Atlantic  
WhiteFishMaLL

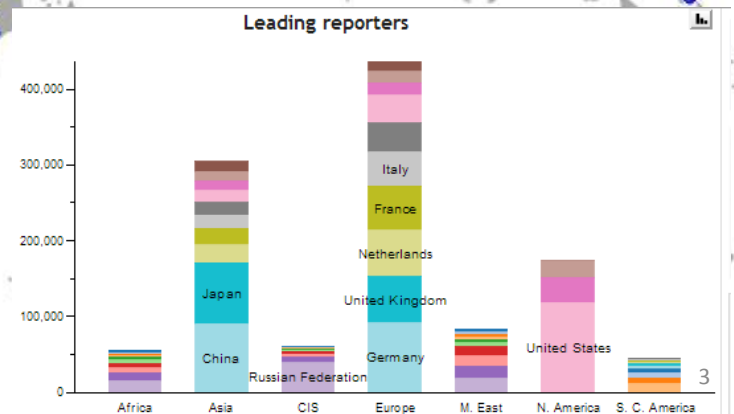
## Some simple facts: the origin of food

The global food trade is estimated to be worth about 1.45 trillion USD



### Disclaimer

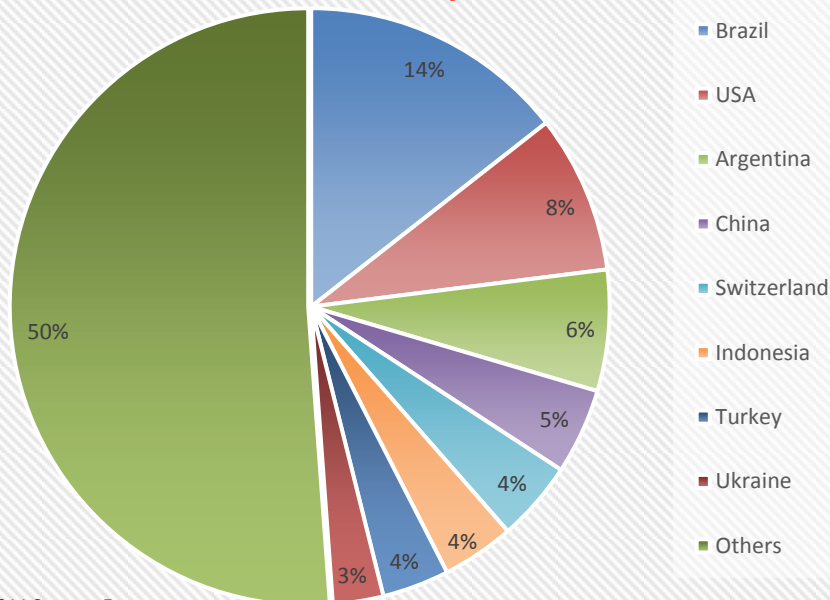
Src: Global Imports of Food, WTO



## One example: the European Union

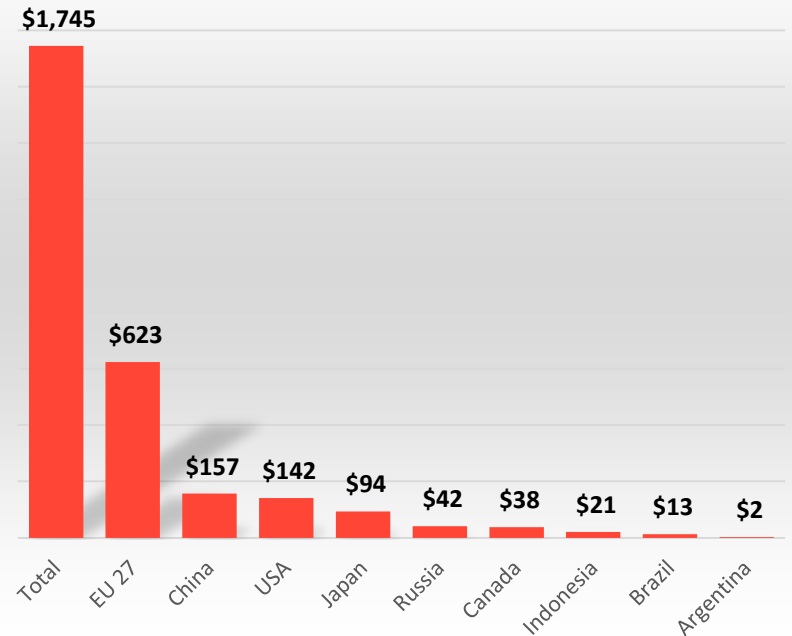
- The world's largest importer and exporter is the European Union
  - 36% of global imports
  - 38% of global exports

Source of EU food imports in %



2011 Source: Eurostat

Global food imports in billion USD

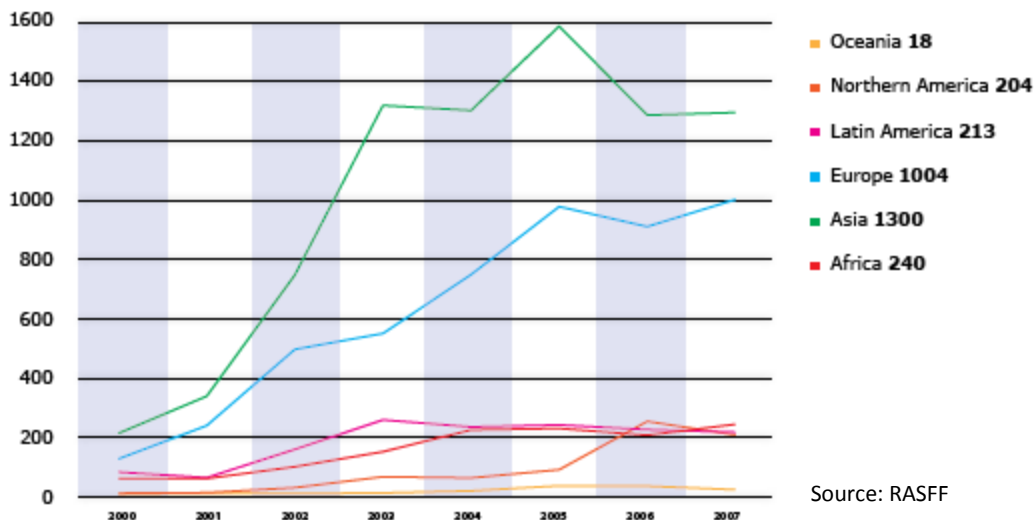


- The source is... the world

## The source of incidences

- Food is a sensitive commodity
  - directly related to human health
  - spoils quickly
- As a result, countries monitor food trade closely and reject what is not fit to eat
- The source of reported incidences in Europe is again... the world!

### Notifications by world regions 2000 - 2007



Source: RASFF

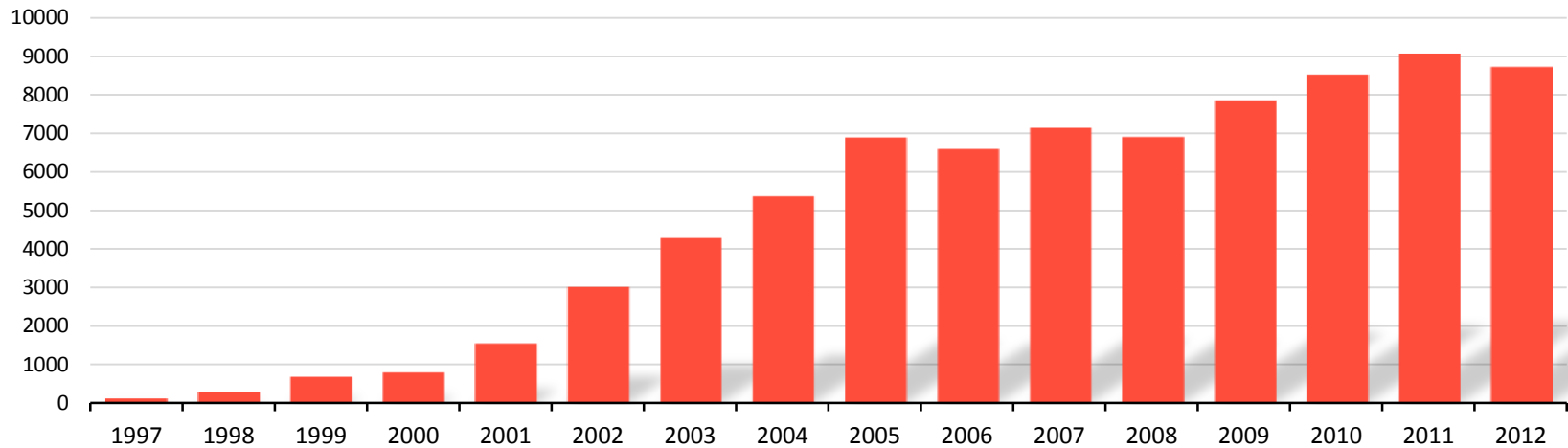
### Notifications by country of origin of the product

| COUNTRY           | Number | COUNTRY            | Number | COUNTRY                | Number | COUNTRY               | Number |
|-------------------|--------|--------------------|--------|------------------------|--------|-----------------------|--------|
| CHINA             | 353 ↑  | BANGLADESH         | 15 ↓   | GAMBIA                 | 4 ↑    | GREENLAND             | 1 ↑    |
| TURKEY            | 292 ↑  | SENEGAL            | 15 ↑   | F.Y.R.O.P. MACEDONIA   | 4 ↓    | GUINEA                | 1 =    |
| THE UNITED STATES | 191 ↓  | RUSSIAN FEDERATION | 15 ↓   | MEXICO                 | 4 ↓    | HAITI                 | 1 ↓    |
| SPAIN             | 177 ↑  | AUSTRALIA          | 14 ↓   | SAUDI ARABIA           | 4 ↑    | ICELAND               | 1 ↓    |
| IRAN              | 133 ↓  | LATVIA             | 14 ↓   | SEYCHELLES             | 4 ↓    | JORDAN                | 1 ↓    |
| GERMANY           | 122 ↑  | THE PHILIPPINES    | 13 ↓   | GEORGIA                | 3 ↓    | MACAO                 | 1 ↓    |
| INDIA             | 113 ↑  | CANADA             | 12 ↓   | KENYA                  | 3 ↓    | HONKONG               | 1 ↓    |
| FRANCE            | 109 ↑  | CYPRUS             | 12 ↑   | REPUBLIC OF KOREA      | 3 ↓    | SAN MARINO            | 1 ↓    |
| THAILAND          | 92 ↑   | IRELAND            | 11 ↓   | MALTA                  | 3 ↑    | YEMEN                 | 1 ↓    |
| POLAND            | 77 ↑   | PANAMA             | 11 ↑   | MAURITIUS              | 3 ↑    | ZIMBABWE              | 1 =    |
| ITALY             | 75 ↓   | AUSTRIA            | 10 ↓   | REPUBLIC OF MOLDOVA    | 3 ↓    |                       |        |
| BRAZIL            | 58 ↓   | IVORY COAST        | 10 ↓   | MOZAMBIQUE             | 3 ↑    |                       |        |
| THE NETHERLANDS   | 52 ↑   | NICARAGUA          | 10 ↓   | ROMANIA                | 3 ↓    |                       |        |
| UNITED KINGDOM    | 52 ↓   | PORTUGAL           | 10 ↓   | SLOVENIA               | 3 ↓    | AZERBEIJAN            |        |
| CHINA (HONG KONG) | 50 ↑   | SINGAPORE          | 10 ↑   | ALGERIA                | 2 ↑    | AFGHANISTAN           |        |
| NGERIA            | 49 ↑   | SWEDEN             | 10 ↑   | BOLIVIA                | 2 ↑    | BENIN                 |        |
| ARGENTINA         | 48 ↓   | SWITZERLAND        | 10 ↑   | CAMEROON               | 2 ↓    | CAMBODIA              |        |
| VIETNAM           | 45 ↓   | SYRIA              | 10 ↓   | ETHIOPIA               | 2 =    | COMOROS               |        |
| BELGIUM           | 40 ↑   | JAPAN              | 9 ↑    | FIJI                   | 2 ↓    | CONGO                 |        |
| UKRAINE           | 40 ↑   | SOUTH AFRICA       | 8 ↑    | GABON                  | 2 ↓    | EL SALVADOR           |        |
| EGYPT             | 35 ↑   | ECUADOR            | 7 ↓    | JAMAICA                | 2 ↓    | ERITREA               |        |
| DENMARK           | 34 ↑   | NAMIBIA            | 7 ↑    | MALAWI                 | 2 ↓    | GRENADA               |        |
| GREECE            | 32 ↑   | ANGOLA             | 6 ↑    | MYANMAR                | 2 ↑    | HONDURAS              |        |
| CZECH REPUBLIC    | 31 ↑   | BULGARIA           | 6 ↓    | NEW ZEALAND            | 2 ↓    | KOSOVO (UNSCR1244)    |        |
| GHANA             | 31 ↓   | COLOMBIA           | 6 ↓    | OMAN                   | 2 ↓    | KUWAIT                |        |
| PAKISTAN          | 27 ↑   | COSTA RICA         | 6 ↑    | PARAGUAY               | 2 ↓    | LUXEMBOURG            |        |
| INDONESIA         | 26 ↓   | LITHUANIA          | 6 ↓    | SIERRA LEONE           | 2 =    | MADAGASCAR            |        |
| SRI LANKA         | 24 ↑   | SURINAME           | 6 ↑    | SUDAN                  | 2 ↓    | THE MALDIVES          |        |
| UNKNOWN ORIGIN    | 23 ↑   | URUGUAY            | 6 ↑    | UGANDA                 | 2 ↑    | MONGOLIA              |        |
| MALAYSIA          | 22 ↑   | CROATIA            | 5 ↓    | UZBEKISTAN             | 2 ↓    | REUNION               |        |
| MOROCCO           | 22 ↓   | ISRAEL             | 5 ↓    | ALBANIA                | 1 =    | SERBIA AND MONTENEGRO |        |
| PERU              | 21 ↑   | KAZAKHSTAN         | 5 ↑    | ARMENIA                | 1 ↓    | TOGO                  |        |
| LEBANON           | 19 ↑   | NORWAY             | 5 ↓    | BOSNIA AND HERZEGOVINA | 1 =    | TONGA                 |        |
| CHILE             | 18 ↑   | SERBIA             | 5 ↑    | CAPE VERDE             | 1 ↓    | UNITED ARAB EMIRATES  |        |
| SLOVAKIA          | 17 ↑   | TAIWAN             | 5 =    | CUBA                   | 1 =    | VENEZUELA             |        |
| HUNGARY           | 16 ↑   | TANZANIA           | 5 ↑    | ESTONIA                | 1 ↓    | YEMEN                 |        |
| TUNISIA           | 16 ↑   | DOMINICAN REPUBLIC | 4 =    | FINLAND                | 1 ↓    | ZAMBIA                |        |

## Has food safety improved over time?

### Total RASFF alerts 2004-2010

Source: RASFF



### Nagging questions:

- Has the General Food Law improved food safety?
- Has increased traceability resulted in safer food?
- Do consumers feel safe and capable of making well-informed decisions?

If not, why not?

Number of cases and incidence rates of various foodborne and waterborne diseases, 2005 (1) Source: EUROSTAT

|                                             | EU-25                   |                                     | Member States          |                                     |
|---------------------------------------------|-------------------------|-------------------------------------|------------------------|-------------------------------------|
|                                             | Confirmed cases (units) | Incidence rate (per 100 000 inhab.) | Highest incidence rate | Incidence rate (per 100 000 inhab.) |
| Botulism                                    | 147                     | 0.0                                 | LT                     | 0.2                                 |
| Brucellosis                                 | 1 428                   | 0.3                                 | PT                     | 1.4                                 |
| Campylobacteriosis                          | 197 802                 | 45.0                                | CZ                     | 296.2                               |
| Cholera (2)                                 | 34                      | 0.0                                 | BE                     | 0.1                                 |
| Cryptosporidiosis                           | 7 960                   | 2.8                                 | IE                     | 13.8                                |
| Echinococcosis                              | 336                     | 0.1                                 | LT                     | 0.4                                 |
| Giardiasis                                  | 14 637                  | 5.2                                 | EE                     | 24.3                                |
| Listeriosis                                 | 1 476                   | 0.3                                 | DK                     | 0.9                                 |
| Salmonellosis                               | 180 303                 | 39.1                                | CZ                     | 322.2                               |
| Shigellosis                                 | 7 255                   | 1.8                                 | LT                     | 13.4                                |
| Trichinellosis                              | 153                     | 0.0                                 | LV                     | 2.1                                 |
| Tularaemia                                  | 489                     | 0.1                                 | SE                     | 2.7                                 |
| Variant Creutzfeldt-Jakob disease (vCJD)    | 14                      | 0.0                                 | SI                     | 0.2                                 |
| Verocytotoxinogenic Escherichia coli (VTEC) | 5 199                   | 1.2                                 | CZ                     | 16.7                                |
| Yersiniosis (non-pestis)                    | 9 535                   | 2.3                                 | LT                     | 14.6                                |

### Paper-based systems

- Easy to implement
- Time resilient
- Not scalable; limited by capacity of personnel and physical transportation
- Cannot be re-used
- Usually not accessible; filed in physical location
- **Information chains impossible to construct**
- *Library of Congress*

### Paperless systems

- Require technical capacity
- Subject to data format compatibility issues
- More scalable; can be (semi)automated
- Easy to copy and exchange; no transportation time
- Easily accessible
- **An information chain can be established**
- *Google*

# smarter food

## inclusive

70% of food globally is produced by smallholders, most of which are excluded from the global food chain. Information technology is used to integrate smallholders in international supply chains.

## safe

Food has to be safe to produce and safe to consume. Safe food uses information technology to improve controls over environmental and social impact of its production as well as its safety to

## traceable

Consumers want to make informed choice of the food they buy for religious, environmental or health reasons or simply for preference. Traceable food is food of which information is recorded along its elaboration process. Consumers can access

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/report?reportId=5\\_5466](https://www.yunbaogao.cn/report/index/report?reportId=5_5466)

