



# Cooperation to Clean up the City by Pirika

Yoshikazu Miwa  
Researcher of Pirika Inc



**Pirika**

1. About Pirika
2. Survey for Litter Distribution through Image Analysis
3. Litter Picking Social Networking Service
4. Technology of Microplastic Research and Analysis
5. Advantages of Pirika to Realize the Clean City

# 1. About Pirika



## Mission

Aim to Resolve All Environmental Issues through the Power of Science & Technology

## First Target

Minimize the Leakage of litters to the Natural Environment

- Founded in 2011
- Based in Tokyo, JAPAN
- Team of dedicated Engineers and Scientists

\*Pirika means "Beautiful" in 'Ainu', the language spoken among the Ainu people in northern side of Japan.



Founder / CEO

Kojima Fujio 小鳶 不二夫

One of Innovators Under 35 Japan 2021 by MIT Technology Review



# 1. About Pirika



## Contribution to Realize the Clean City by Pirika



Survey for Litter Distribution through Image Analysis



©macrovector



Technology of Microplastic Research and Analysis



Litter Picking Social Networking Service

## 2. Survey of Litter Distribution through Image Analysis

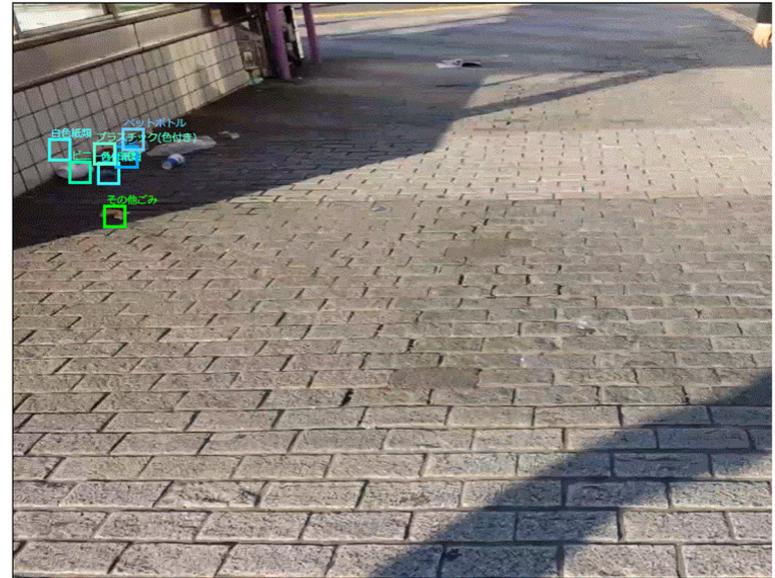


### Takanome\* System \* Takanome means Hawk eye.

Takanome System that Maps and Measures Litter Using Visual Recognition Technology to Grasp the Accurate Situation.



① Shoot the Video of Street



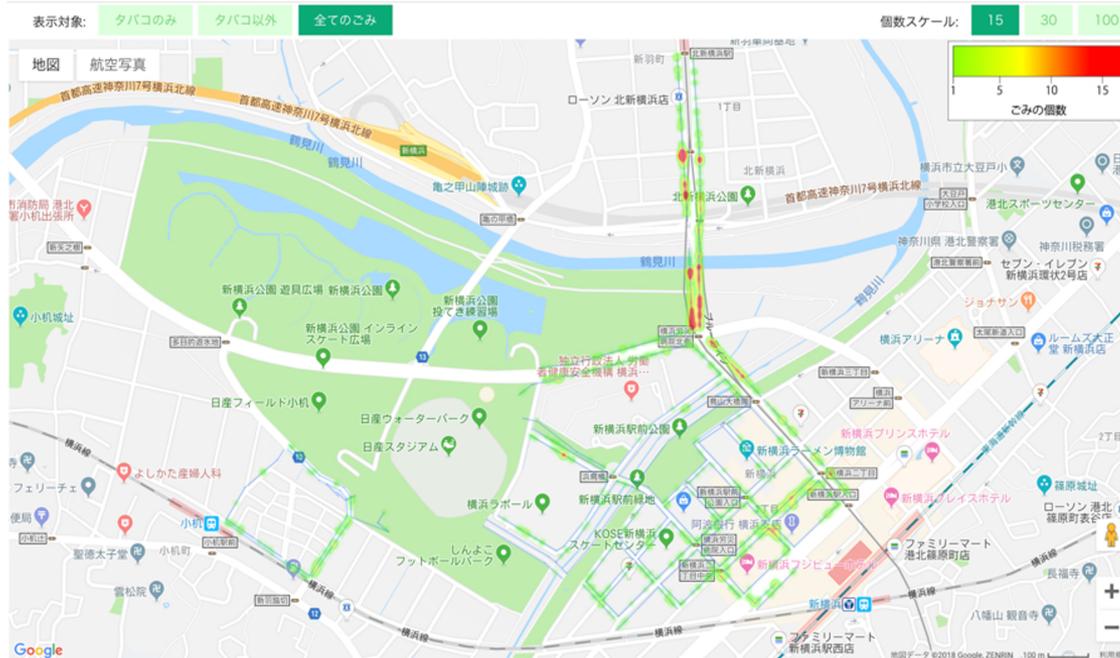
② Identify Litters by the Image Analysis

## 2. Survey of Litter Distribution through Image Analysis



### Specification of the Hotspot

Municipalities Specify the Hotspot of Litter Distribution and Prioritize the Cleaning Plan



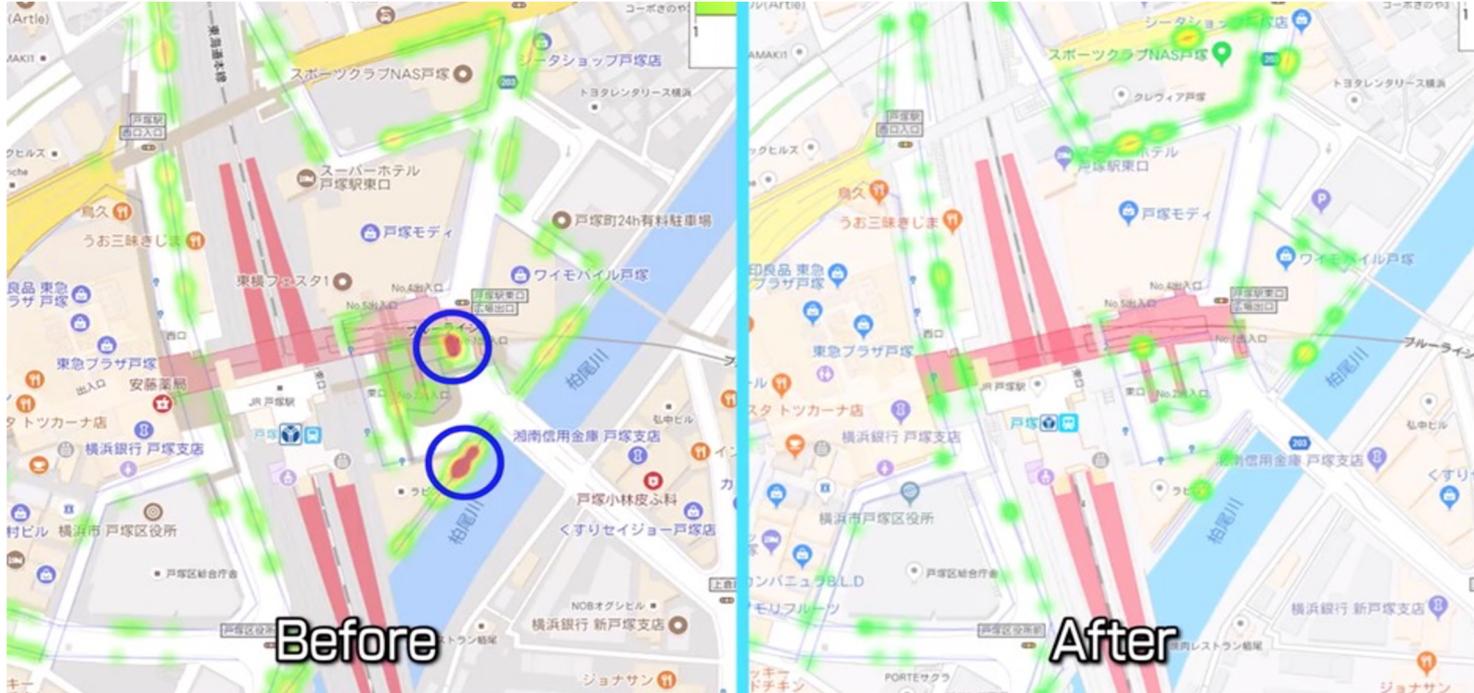
### ③ Produce the map that shows litter distribution

## 2. Survey of Litter Distribution through Image Analysis



### Evaluation of the Policy and the Countermeasure

Municipalities like Yokohama City Municipality Measures the Effect of the Ordinance for Banning Smoking on the Street as one of EBPM



## 2. Survey of Litter Distribution through Image Analysis



### Accumulation and Comparison of data quantitatively

Takanome System Realized the Quantitative Evaluation and Comparison of Litter Distribution between Multi Points

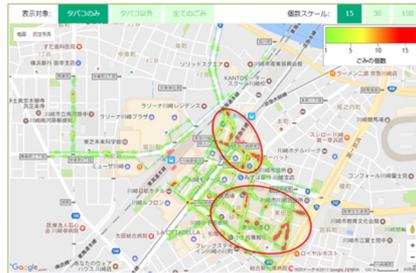
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### 地域ごとの傾向：川崎駅

川崎駅周辺は今回調査した7地域の中で最もポイ捨てが深刻で、たばこ、たばこ以外のごみ共に非常に多くのごみが散乱していた。

駅の東口側と西口側では傾向が大きく異なり、非常にポイ捨てごみの数が多い東口側と、関東圏の他都市と比較してもとてもきれいな部類に入る西口側でまったく異なる顔を見せた。

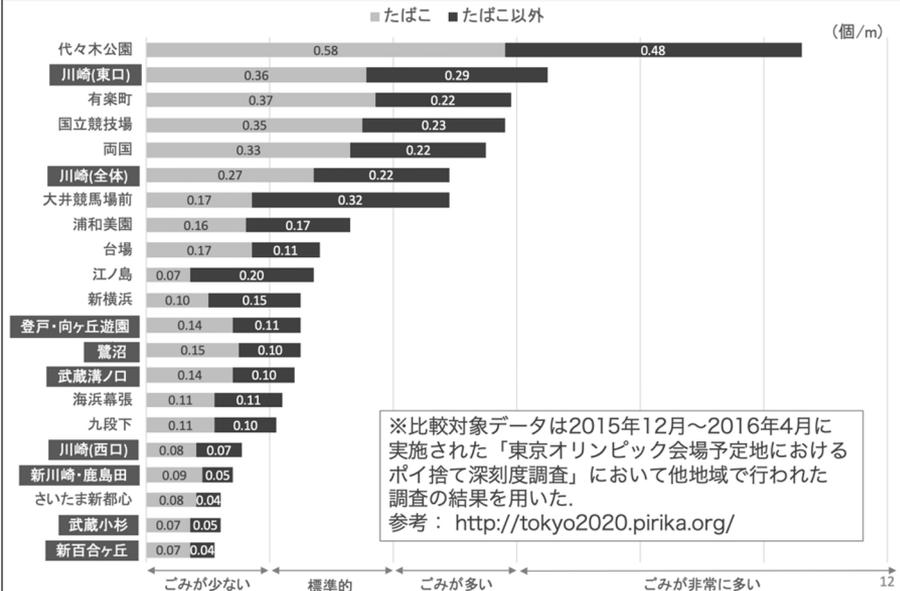
特にポイ捨てが集中していたのは京急川崎駅周辺と仲見世通りを中心とした駅南西側のエリアで、ポイ捨てごみの多いだけでなく、ガムの張り付きが多い、ごみが引っぱりやすい路面構造などの特徴が見られた。



#### 基本データ (西口|東口)

最寄り駅	川崎駅(JR・京急)
乗降人数(2015年)	330656人
管轄自治体	川崎市
調査日	H29年 3月 22日
調査距離	13421.2m (4125.2m   9296.0m)
ポイ捨てごみ個数	0.50個/m (0.15個/m   0.65個/m)
たばこ	0.27個/m (0.08個/m   0.36個/m)
たばこ以外	0.22個/m (0.07個/m   0.29個/m)

### 他地域との比較：歩道1mあたりのポイ捨てごみ数



※比較対象データは2015年12月～2016年4月に実施された「東京オリンピック会場予定地におけるポイ捨て深刻度調査」において他地域で行われた調査の結果を用いた。  
参考： <http://tokyo2020.pirika.org/>

## 2. Survey of Litter Distribution through Image Analysis

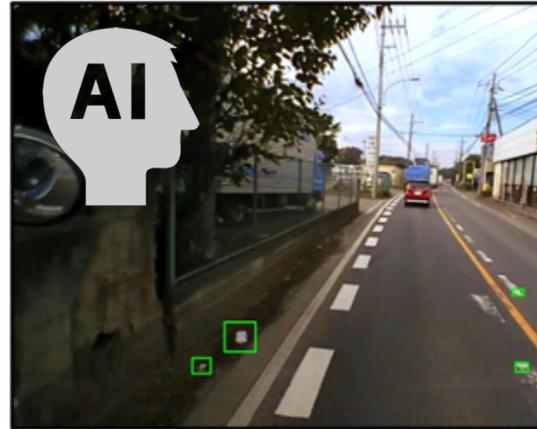


### Developing the Advanced Image Analysis System by AI

AI based Image Analysis through Devices Mounted on Vehicles will Realize the Production of Wider Distribution Maps of Litters Rapidly and Efficiently



Mount the Device on Vehicles



Identify Litters on Roads



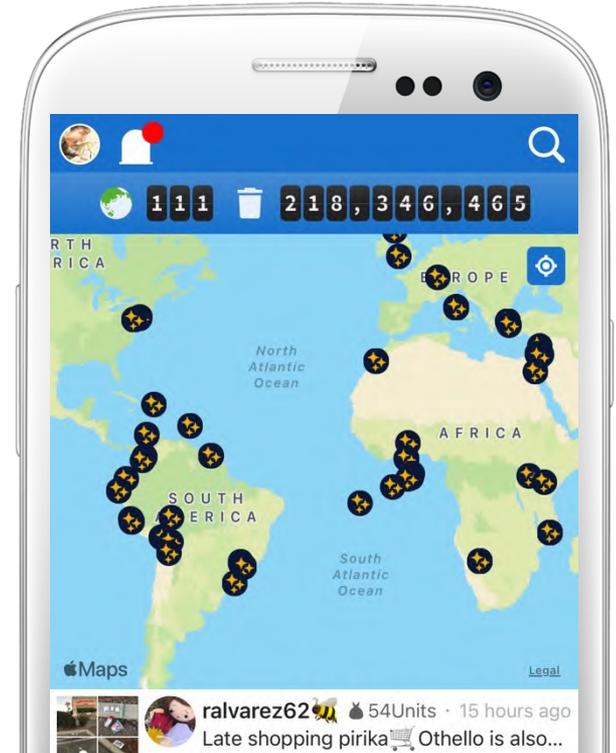
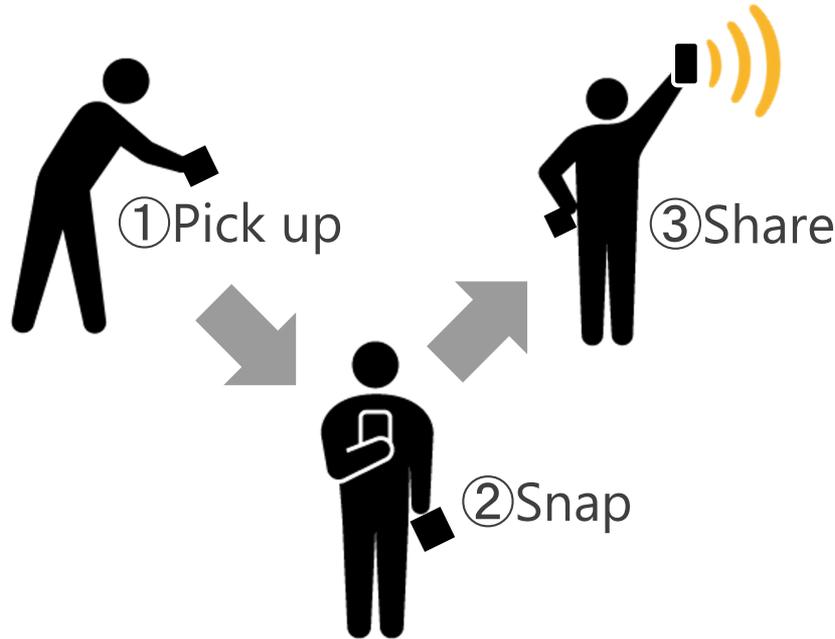
地図データ©2021 Google

# 3. Litter Picking Social Networking Service



## Pirika – Free Social Networking Service to Promote Litter Picking

Users and Communities can Record and Share the Information of Litter Picking and Cleanup Actions around the World through the Internet



# 3. Litter Picking Social Networking Service



## Pirika - Largest Scale Social Networking Service for Litter Reduction

Pirika Users has Contributed to Reduce more than 210 Million Pieces of Litter in 111 Countries



# 3. Litter Picking Social Networking Service



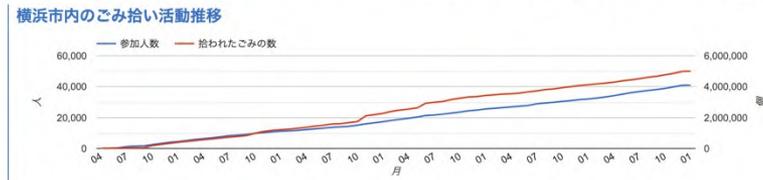
## Pirika – Litter Picking Dashboard in Real Time

Pirika can Provide the Litter Picking Dashboard in Specific Local Area to Grasp Litter Picking Activities in Real Time for Municipalities and Companies

ありがとうございます！  
**ヨコハマクリーンアップ** 市民の参加にご協力いただき「きれいな街ヨコハマ」は、つくられています。日頃の美しい街並みに感謝を申し上げます。皆様のご参加により有意義な活動となるようにつくられたサイトが、SNS「ありがとう！ヨコハマクリーンアップ」です。継続に「ありがとう」の輪を広げてください！ powered by **PIRIKA**

横浜市内で参加人数 **40,935** 人  
横浜市内で拾われているごみの数 **5,003,649** 個

地図 航空写真  
川崎市 横浜市 三浦区  
星繪美 8時間前  
ごんずい(gonzui) 9時間前  
志津❖ゴミ係 11時間前  
Qanpan1 12時間前  
ばたこ 14時間前  
竹内 正彦 15時間前



<https://www.pirika.org/city/yokohama>

- Visualize and Analyses the Grassroots Litter Picking Activities in Local Area
- Promotion of Clean up Action for Citizens and Employees
- Improve the Public Health under COVID-19

- Pirika has Installed Officially
- Over **10 Municipalities**
  - Over **1500 Organizations**



# 3. Litter Picking Social Networking Service



## Pirika –Illegal Dumpsite Reporting System

Pirika can Provide the Solution in Collaborate with Citizen and Communities to Address Local Waste Problems like Illegal Dumping for Municipalities



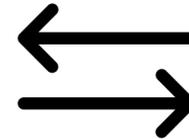
### Illegal Dumpsite Information (Photo, Location etc.)



**Citizen  
Volunteer**



**Municipal  
Officer**



Illegal Dumpsite Reporting System by  
Smartphone App in Ibaraki Prefecture

<https://www.youtube.com/watch?v=RyLy7DYCTo8>

## 4. Technology of Microplastic Research and Analysis



### **Albatross – Innovative Technology of Microplastic Research**

Pirika developed Original Mobile Survey Devices to Sample the Particles of Floating Plastics in Rivers, Bays and Oceans by Same Method



Available to Send  
Survey Equipment Kit  
as One Parcel

# 4. Technology of Microplastic Research and Analysis



## Albatross – Challenge to Identify of Routes & Sources of Mictoplastics

Pirika could not only Analysis of Composition of Microplastic, but also Identify the Products and Sources of them in Collaborate with Scientists and Institutes



# 4. Technology of Microplastic Research and Analysis



## Albatross – Provision of Solutions to Prevent Microplastic Leakages

Pirika had found some Previously Unknown Source of Microplastics like Artificial Turf and Implemented Practical Countermeasures in Cooperation with Manufactures, Construction Companies and Professional Sports Teams

[000307] 2020/09/03 15:40

SAMPLES SUMMARY

000307-0001	000307-0002 PE
000307-0003 PP	000307-0006 PE

000307-0002

Category	Attribute	Value
Product	Product	人工芝
	Product Remark	射出成型
	Length (mm)	2.45
	thickness (mm)	0.26
Scale		

Construction and Operation of the Online Database for Microplastics



Installation of Mesh Net around the Field to Prevent Leakages of Artificial Turf

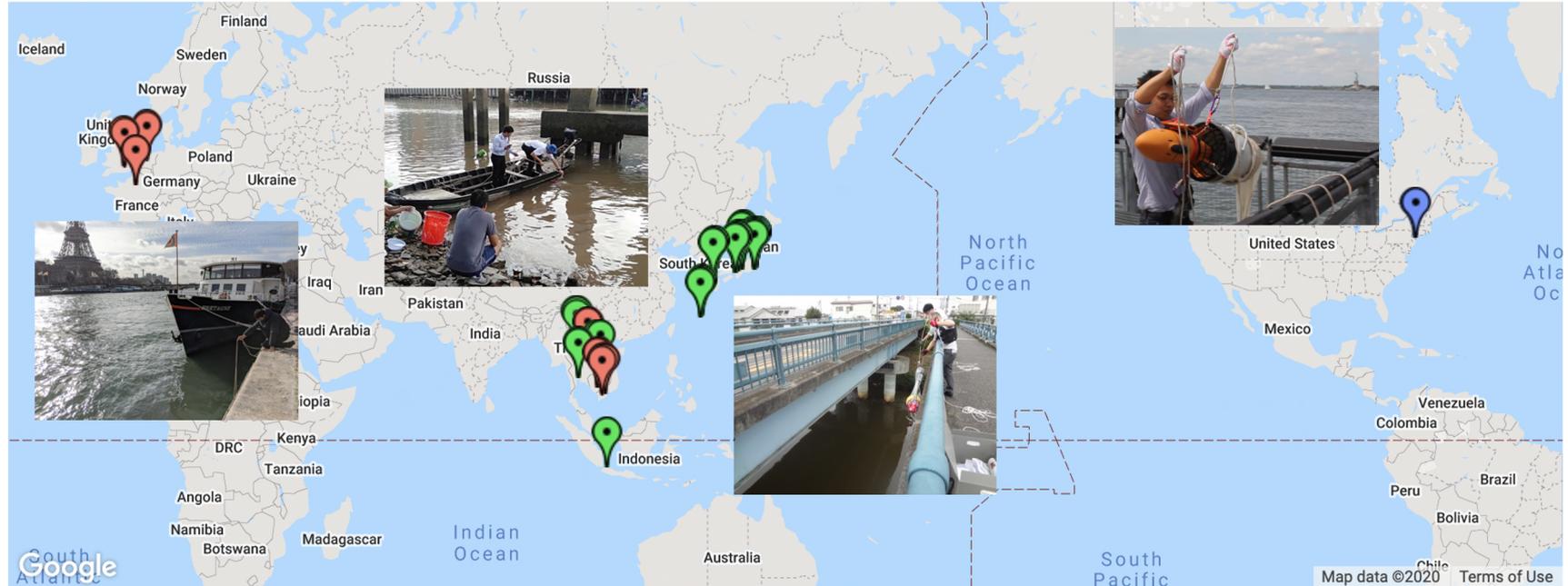
[https://www.srigroup.co.jp/newsrelease/2021/sri/2021\\_035.html](https://www.srigroup.co.jp/newsrelease/2021/sri/2021_035.html)

# 4. Technology of Microplastic Research and Analysis



## Albatross – Worldwide Knowledge Sharing through the Database

Pirika has Implemented the Survey over 300 Points in 10 Countries and Constructed the Database of Microplastics to Share these Knowledge



UNEP Introduced the Albatross’s Method in Thailand, Vietnam, Lao PDR and Cambodia as a Part of CounterMEASURE Project

# 5. Advantages of Pirika to Realize the Clean City



## ① Innovative Technology

Pirika can Provide the Technical Solution through Softwares and Hardwires to Identify the Cause of Environmental Problems and Implement Practical Countermeasures



Survey for Litter Distribution through Image Analysis



Technology of Microplastic Research and Analysis



Litter Picking Social Networking Service

# 5. Advantages of Pirika to Realize the Clean City



## ② Scientific Evidence

Pirika has Extensive Survey Experience and Accumulated the Scientific Data to Contribute the Fact Finding & the Evidence Based Policy Making

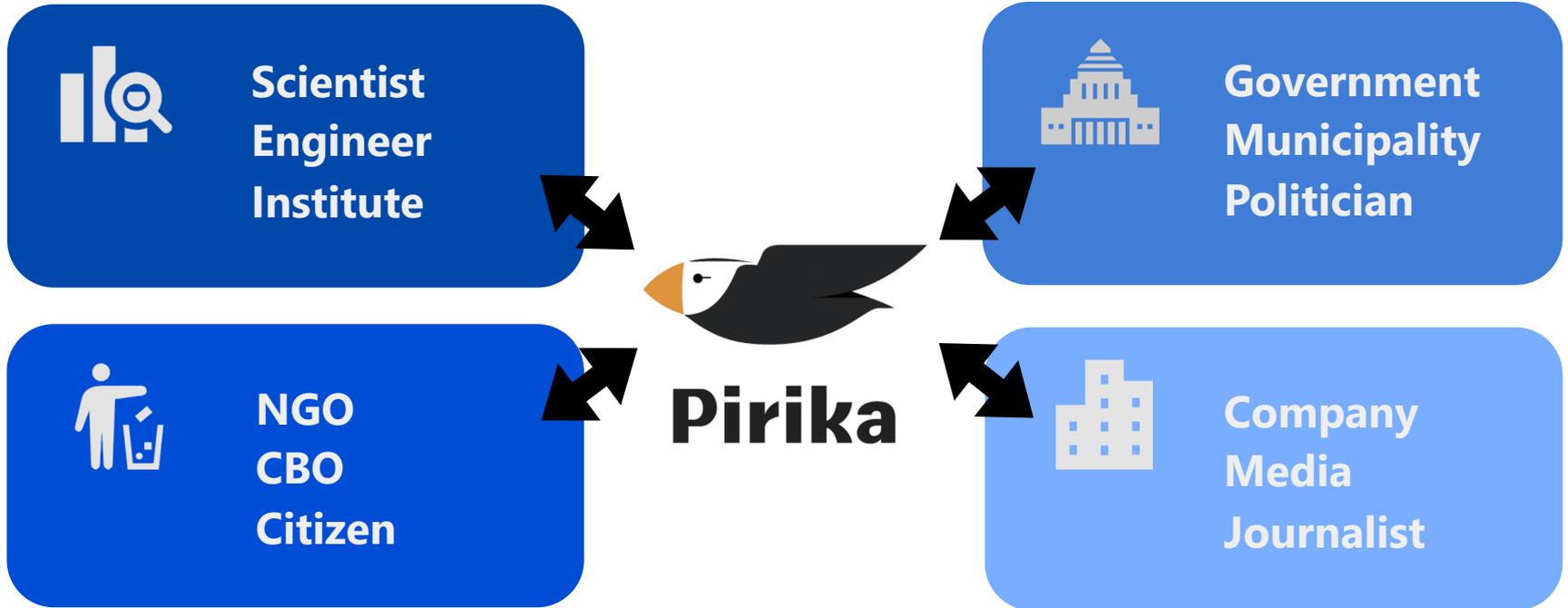
- Tracking & Mapping to Measure Plastic Leakage to Oceans
- Contribution for the Development of Official Guidelines to Research Microplastics in Rivers (Government of Japan)
- Cooperation of Lecture & Training about Countermeasures of Marine Plastic Pollution (Asian Institute of Technology, JICA etc.)



# 5. Advantages of Pirika to Realize the Clean City **Pirika**

## ③ Inclusive Partnership

Pirika has a Broad Network and Practical Experience in Collaboration with Diverse Partners to Resolve Environmental Issues





# Let's Clean up Your City with Us!

[miwa@pirika.org](mailto:miwa@pirika.org)

TEL: +81-50-5477-4308

<https://en.corp.pirika.org/>



**Pirika**