



# Technology and Business Regulation - RegTech

## Global Business Regulation

# Context – New Economy, Industry 4<sup>th</sup> and Business Regulation

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New disruptive and technology-drive business models **require reconsideration of how governments regulate industries**

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The center of the new economy ecosystems is a digital platform supported by data

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Traditional prescriptive regulatory approaches are increasingly outdated and **cannot effectively respond to the pace of innovation**

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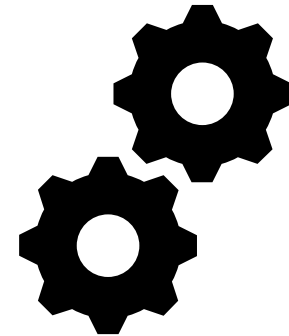
Governments are realizing that silo approaches to the implementation of information technology systems create barriers – integrated rule making and service delivery is required

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The third generation of technology driven reforms, initiated by GBR in 2018, focuses on agile regulation approaches, and the **use of Artificial Intelligence and other emerging technologies for integrated rule-making and service delivery**

# Objective Statement

The objective of RegTech is to develop agile regulation approaches to unlock investments and enable the digital economy, as well as regulatory service delivery, while safeguarding public policy concerns and mitigating risks.



# RegTech Solution Area - History

## First Generation - until 2011 – Back-office Automation

- **Back-office automation** with parallel paper processing (such as, business registration/licensing back office workflows, automation of “physical” one-stop-shops)
- **Consolidation and digitization of key registries** (business registry, key licenses and permits)
- **Online informative portals on administrative requirements** (online registries of regulatory requirements)
- **Design of an enabling environment for transaction systems** (interoperability, PKI, e-Payment)
- Identification of good practices for transactional online systems (focused studies on business registration and licensing)



## Second Generation - 2012-2018 – Transactional Online Systems

- **Online transactional systems** (such as business registration, licensing and inspections, online feedback mechanisms including notice and comments for rulemaking, shared inspection management systems)
- **Mobile applications** (mobile inspector and feedbacks)
- **Online single windows** (trade systems, investment facilitation)
- **Integrated solutions according to domains** (e-Construction Permits, Shared Inspection Management Systems)
- **Identification of good practices, and designing guidelines for better integration of G2B services** (for example, implementing a unique business identifier in government, research on integrated service delivery and use of artificial intelligence for rulemaking and service delivery)



## Third Generation 2018 – Innovative Technologies for Agile Regulation

- **Design of innovative legal and technology solutions for business regulation – agile, individualized, and risk-based** versus prescriptive, “plan-based”, and command and control (for example, conversational forms for integrated service delivery, real time risk management and cognitive insights using Artificial Intelligence)
- **Digital transformations for agile regulation** (such as rule making, and agile business registration, licensing and inspections integrating entire lifecycle from business entry, over operation to exit)
- **Data as a Public Good** to enable the regulation of the sharing economy
- **Delivery model to make the technology and agile regulation accessible to developing countries**

# RegTech Solution Area

## Pillar I Agile Regulation



Agile policies and regulations for new technology-enabled business models

## Pillar II Integrated Rulemaking



Integrated rulemaking technology solution implementing Good Regulatory Practices (GRP)

## Pillar III Integrated Regulatory Delivery



Disruptive technologies to integrate the business regulation delivery across a whole business lifecycle

# Problem Statement and RegTech

## Problem Statement

- “Fourth Industrial Revolution” with the introduction of new technologies and evolving business models **disrupt existing industry structures, value chains, and regulatory frameworks**
- **Traditional regulatory approaches cannot effectively respond to the pace of innovation** and dynamics of working relationships that are emerging in economies around the world
- **Discriminatory regulation** - technological and market convergence has accelerated, market distortion is increasing because of disparities in the way different sectors are regulated
- **Static regulations of dynamic markets** - prescriptive, ex ante regulatory regimes are no longer effective in the face of rapid innovation

## RegTech Solution Area

- **Establish Agile Regulatory Frameworks** in which private sector can thrive, while safeguarding health, safety, and environment
- **Integrated Rulemaking and Good Regulatory Practices**, by introducing registry of regulations and administrative requirements, public consultation, e-Regulatory Impact assessment,
- **Integrated Regulatory Delivery**, integrating business entry, licensing, inspection business life events, and eventually business exit
- **Implementing Data as a Public Good** - the biggest asset of the New Era is refined data, empowered with technology to make a public good



# Agile Regulation

## Agile Regulation for Innovation Public Interest and Growth

### Enabling the Digital Economy Through Regulation

- **Shift from “command and control” to agile** regulatory approaches
- **Transformation of horizontal, economy-wide policies** (such as data privacy, protection, and ownership, competition policy, algorithmic bias, cybersecurity, public health, occupational safety, and environmental protection)
- **Transformation of vertical, sector specific policies** (such as healthcare, finance, and transportation)

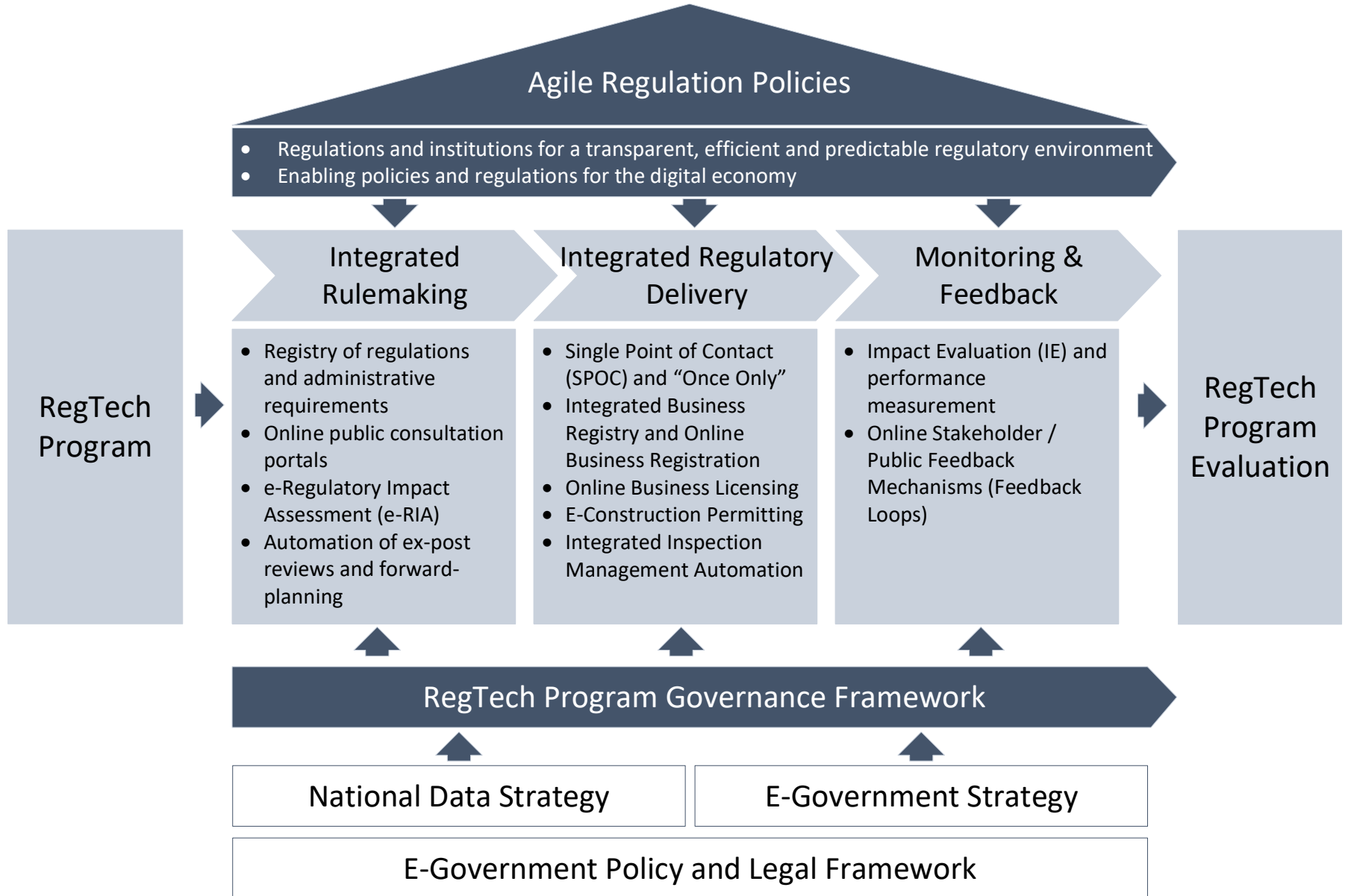
### Agile Regulation of the Digital Economy to Enable Innovation and Growth

- **Identify and address risk profiles** of multisided digital platforms, and identify liability (e.g., Uber, AirBnB, etc.)
- **Design regulatory functions and develop capacities** for addressing the challenges of new digital economy business models
- **Implement agile regulatory policies** (e.g., using regulatory sandboxes)

### Enhancing Regulatory Service Delivery in the Digital Economy

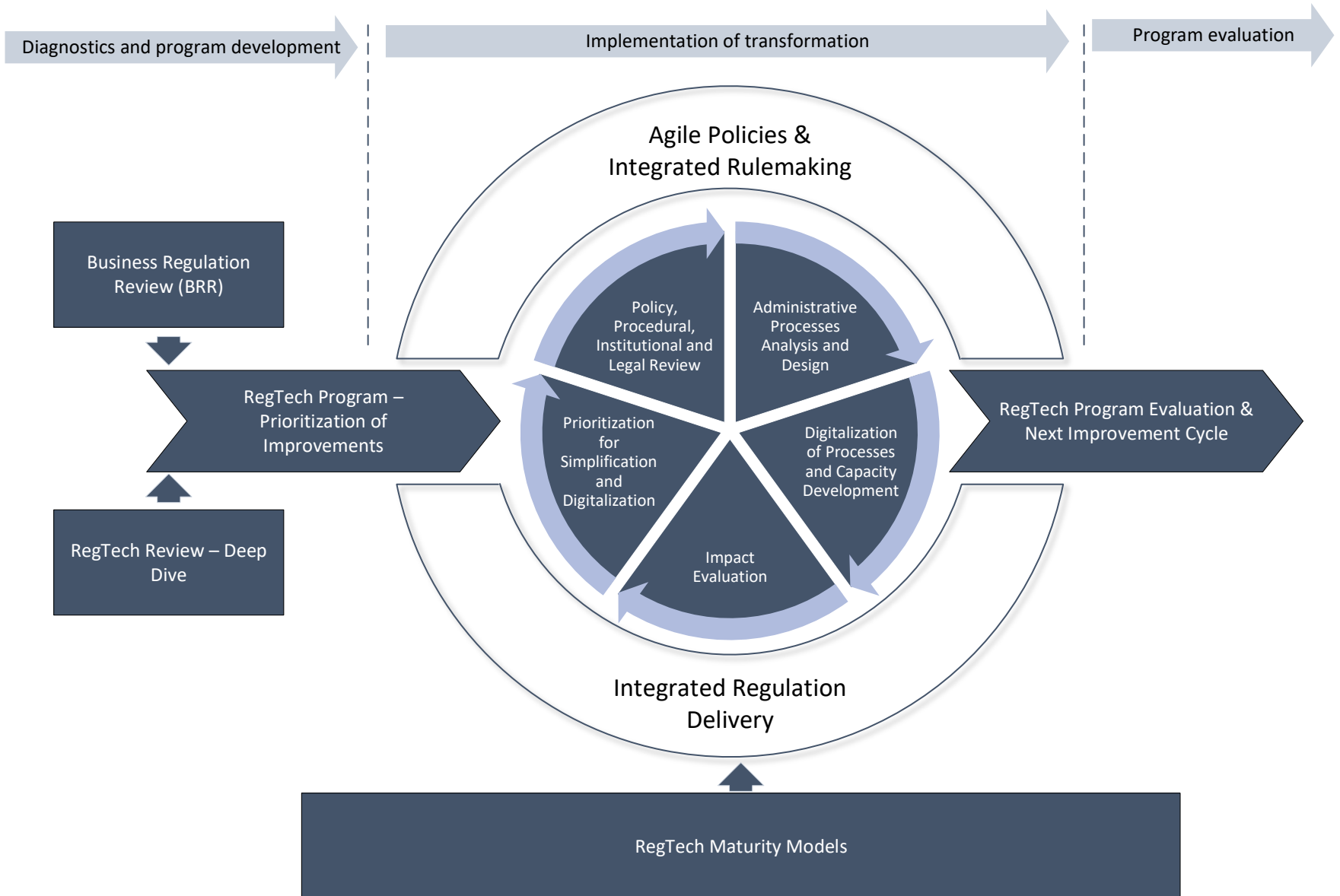
- **Implement Integrated Rulemaking** – Good Regulatory Practices (GRP)
- **Implement Integrated Regulatory Delivery** (e-Business Registration, e-Permitting, e-Inspections, e-Construction Permits)
- **Harness the benefits offered by transformative technologies such as artificial intelligence and other emerging tech to improve regulatory service delivery** and regulatory oversight

# RegTech Reference Model





# RegTech Delivery Model



# RegTech

## AI for Business Regulation

	Text analytics and NLP	Machine learning	Decision management	Virtual agents
Rulemaking	Inventory of regulatory requirements	Review of regulatory requirements Regulatory impact analysis	Prompt decision makers with possible decisions	Support online public consultation
Business Registration	Selection of business name	Review business registration application	Decide on business registration case	Conversational application form Browse business registry
Business Licensing	Filter applicable permits and licenses	Review permit/license application	Decide on issuing license/permit case Decide on renewing permit/license	Conversational application form Informing on permit requirements
Business Inspections	Discover risks (e.g. social media posts)	Risk assessment of businesses/locations/facilities/products	Inspection targeting Prioritization of checks Selection of actions	Informing on inspection checklists Self-assessment

# Example: AI for Business Name Selection

## Challenge

- Business name validation is the most complicated task in the business registration process for the automation
- **Due to a number of rules and languages traditional technology applications cannot solve this problem**
- The automation of the business name validation is a prerequisite to introducing a fully automated business registration which can be applied in some instances

## Solution

- **Artificial intelligence (AI) – augmented business name validation**
- Use of logistic regression machine learning algorithm commonly applied for the classification tasks
- **The algorithm can be trained regardless of languages;** important prerequisite is the quality of data in the business registry
- **Estonian Business Registry – RIK is piloting this solution**

**Step 1: Checking name availability online** and receiving percentage from AI – example of “Koka-Kola”

**Step 2: For margin cases a support to decision making is needed in the back office**

**Step 3: Providing a reason for rejection used to train the AI**

**e-äriregister**  
Registreerimis- ja informatsioonikeskus

Koka-Kola OÜ

TÕENÄOSUS, ET VALITUD NIMI VASTAB ÄRINIME REEGULELE: **27%**

**JÄTKA**

**Soovitused ärinime valimiseks:**

- ärinimi peab seeläbi esinema teistest äriregistrisse kantud ärinimedest
- ärinimi ei tohi sisaldada teise isiku Eestis kaitsvat kaubamärki ilma kaubamärgi omaniku nõusolekuta, välja arvatud juhul kui ettevõtja tegeleb alal, kus kaubamärki ei ole kaitsnud
- ärinimes on ilma õiguseeta keelatud kasutada registreeritud geograafilist tähist, välja arvatud juhul, kui ettevõtja tegeleb tegevusalal, mille suhtes geograafiline tähis ei ole kaitsitud
- ärinimi ei või olla vastupidine teade komisjoni
- kui ärinimi lisaks ärühingule viitavale tähenõule sisaldab riigi, haldusüksuse või muu koha nime, peab ärinimi sisaldama riigi, haldusüksuse või muu koha nimest eristavat tähist
- ärinimes ei või kasutada riigi või kohaliku omavalitsuse organite ja asutuste nimetusi
- sõnu 'riigi' või 'linna' või 'valda' või muud riigi või kohaliku omavalitsusüksuse osalusel viitavaid sõnu võib ärühingu ärinimes kasutada ainult siis, kui riigile või kohalikele omavalitsusele kuulub üle poole ühingu osadest või äktsiaaltest
- ärinimi peab olema kirjutatud eesti- või ingliskeelsetes tähestikes

**Soovitusi ärinime valimiseks leiata veel siit**

Otel registreeringud

**Koka-kola OÜ**

- Samase nimelise ettevõtte (Coca-Cola OÜ)
- Samase nimelise kaubapildi ettevõtte (Coca-Cola OÜ)

**AKTSEPTER** **KOOSTA MÄRKUS**

Välja märkuse koostamise põhjused:

- Samase nime on juba äriregistris
- Samase kaubamärgi on juba registreeritud
- Nimi on vastupidine teade komisjoni
- Nimi kaheldav koostamisega
- Nimi on tegevusalaiga vastupidine
- Samase kaubapildi geograafiline tähis on juba registreeritud
- Mõni põhjus

**SALVESTA**

Example – e-Permitting System for Moldova – simplification and digital transformation of the business permitting regime – over 100 business permits digitalized and online

The screenshot displays the E-Permits website for Moldova. The browser address bar shows the URL <https://actpermisiv.gov.md/#/ep/permit/9>. The page header includes the Government of Republic of Moldova logo and navigation links for Home and Issued Permits. The main content area is titled "09 Sanitary Authorization for Operation" and provides a description of the permit. A prominent blue button labeled "Apply for permit" is visible. Below this, there is a section for "Supporting Documents" with a list of requirements. On the right side, a sidebar provides contact information for the Agency for Public Health, including an infoline number and a website link.

**09 Sanitary Authorization for Operation**

The Sanitary Authorization for Operation allows the applicant to practice entrepreneurial activities in accordance with the legal sanitary and hygiene requirements established by the National Public Health Authorities.

[Apply for permit](#)

**Supporting Documents**

- 1. New Application**
  - The original Sanitary Permit for Functioning, previously issued by the Chief Sanitary Medical Officer of the city / rayon
  - Property title or Lease agreement for premises
  - List of product groups (goods) to be manufactured, stored, marketed
  - Confirmation of registration of the economic agent in the Republic of Moldova

**Agency for Public Health**

Infoline: [+373 22 574501](tel:+37322574501)

Website: <http://cnspp.md>

[More contacts >](#)

**Featured permits:**

<https://actpermisiv.gov.md/#/home>

# Example – Jordan Integrated Inspection Management System – streamlining and implementing risk-based inspections – horizontal e-Inspection technology platform

The screenshot shows the homepage of the Taftteesh website. The browser address bar displays <https://tafteesh.gov.jo/english/>. The website header includes the Ministry of Industry, Trade and Supply logo and name, along with navigation links for Home, Inspection in Jordan, Inspection Entities, Media Center, My Taftteesh, and The Official Website for Taftteesh. A list of inspected entities is displayed on the left side of the main content area, including the Ministry of Tourism & Antiquities, Ministry of Health, Ministry of Agriculture, Ministry of Environment, Greater Amman Municipality, Civil Defense Department, Jordan Food & Drugs Administration, and Energy and Minerals Regulatory Commission. The main content area features a banner with the text "Doing our best for you" and a description of the Civil Defense force. A button labeled "Visit Jordan Food & Drugs Administration" is also visible.

<https://tafteesh.gov.jo/english/>

# Contact

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