STOA | Panel for the Future of Science and Technology

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Algorithmic decision-making: Opportunities, challenges & governance

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Opportunities & challenges

- Algorithms are increasingly used in decision-making processes.
- Impact on people can be significant (e.g. access to credit, employment, medical treatment, judicial sentences).
- Entrusting algorithms to make or influence decisions raises a variety of ethical, political, legal and technical issues.
- The expected benefits may be negated by the variety of risks for:
  - individuals (discrimination, unfair practices, loss of autonomy),
  - the economy (unfair practices, limited access to markets),
  - society as a whole (manipulation, threat to democracy).

⇒ STOA studies (March/April 2019) on: Understanding algorithmic decision-making

Policy options

- Awareness raising (public debate, training, journalists)
- Research (develop conceptual tools, use existing mechanisms, make data available to researchers, reverse engineering vs IPR)
- Framework for algorithmic impact assessments:
  - Definition of 'algorithmic system'
  - Purpose, scope, intended use, implementation timeline
  - Self-assessment & mitigation plans
  - Public participation & opportunity to challenge failures
  - Support innovation for new accountability & auditability tools
  - Regular renewal

Policy options

- A European regulatory body?
  - Advise other regulatory bodies
  - Investigate suspected infringements of human rights
  - Identify standards and best practices for certification
  - Audit highly sensitive algorithmic impact assessments
  - Provide contact point for citizens
- A European ethics committee?
  - stimulate, organise & ensure quality of public debate
  - Publish recommendations & pave way for …
- … a future general regulation on algorithmic decision-making
- Global coordination of algorithmic governance

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