

**Microsoft Consumer Profiling Report – Annex 2 – LinkedIn**

**DMA.100160 – Microsoft; DMA.100026 – Microsoft – Operating Systems;  
DMA.100017 – Microsoft – Online Social Networking Services**

**1. PRELIMINARY INFORMATION**

**1.1. Glossary**

1. This document uses the following terms:

**Automated Decision-Making:** automated decision-making means the automated decision-making, including Profiling, referred to in Article 22(1) and (4) of Regulation (EU) 2016/679.

**Business User:** business user as defined in Article 2, point (21), of the DMA.<sup>1</sup>

**Consent:** consent of the data subject as defined in Article 4, point (11) of Regulation (EU) 2016/679.

**Customer:** a Business User of LinkedIn’s products or services provided as part of or together with LinkedIn’s online social networking service, including Sales Navigator, Recruiter, Jobs, LinkedIn Marketing Solutions, and Learning.

**End User:** end user as defined in Article 2, point (20), of the DMA.

**Explicit Skills:** skills that were provided by the Member and are listed in the “Skills” section of a Member’s profile.

**Feed:** a regularly updating stream of content that appears on a Member’s home page. The feed contains information relevant to a Member such as posts, shares, comments, and reactions from the Member’s network.

**Implicit Skills:** skills derived about Members based on information provided by a Member in their profile, such as the summary, position description, title, and headline.

**Member:** a user of LinkedIn’s social network who has a registered account and profile on the platform. Members use LinkedIn to connect and communicate with other professionals, explore opportunities for employment, and discover content for career and business development opportunities.

**Pages:** pages created on LinkedIn’s social network by organizations, including companies, universities, or non-profit organizations, to allow Members to discover, follow, and

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<sup>1</sup> Regulation (EU) 2022/1925 of the European Parliament and of the Council on contestable and fair markets in the digital sector (Digital Markets Act or “DMA”).

connect with those organizations and learn more about their products and services.

**Personal Data:** personal data as defined in Article 4, point (1) of the GDPR,<sup>2</sup> in particular information relating to an identified or identifiable natural person.

**Premium:** subscription-based service that provides Members with access to a variety of enhanced features that empower Members to achieve their professional goals faster. Examples of enhanced features include additional insights about profile views or the ability to conduct unlimited searches for other professionals across LinkedIn.

**Profiling:** profiling as defined in Article 4, point (4), of the GDPR and as clarified in WP29, ‘Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679’, 17/EN WP251 rev.01, 6 February 2018. For purposes of this report, data processing is considered to constitute Profiling if: (1) the processing is automated; (2) the processing is carried out on Personal Data; and (3) the objective of the processing is to evaluate personal aspects about a natural person, in particular to analyze or make predictions about them.

**Third Party:** third party means a natural or legal person, public authority, agency, or body other than LinkedIn.

## 1.2. Overview

2. Before detailing LinkedIn’s specific Profiling consumer techniques and to help orient the reader with LinkedIn’s offerings, LinkedIn provides a brief overview of its products and services and the data processed in delivering said offerings. LinkedIn’s description of its Profiling techniques begins in **Section 2**.

### 1.2.1. Products And Services Offered

3. LinkedIn provides an Internet-based social networking service that focuses on promoting professional connections. LinkedIn Members use LinkedIn to engage, search, discover, connect, and communicate with other professionals. Members also use LinkedIn to advance opportunities for employment and explore content for career and business development prospects via the LinkedIn Feed, recommendations (for potential connections and content), Company Pages, and messages or chats. LinkedIn Members can purchase LinkedIn Premium subscriptions that offer enhanced sets of features for engaging with the LinkedIn social network.
4. LinkedIn offers certain enhanced search and contact capabilities for sales and recruiting professionals as part of its online social networking core platform service (“**CPS**”). LinkedIn Sales Navigator is a sales intelligence tool that complements Customer Relationship Management (“**CRM**”) offerings (such as Salesforce CRM) to provide Customer lead recommendations, sales updates, and search results for Member database

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<sup>2</sup> Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation or “**GDPR**”).

queries. Similarly, LinkedIn Recruiter offers recruiting teams additional search and project management tools.

5. LinkedIn provides other jobs, marketing, and learning products and services together with its online social networking CPS. With LinkedIn Jobs, employers and recruiters may post jobs, and candidates may find and apply for jobs. LinkedIn Marketing Solutions (“LMS”) allows Customers to advertise to LinkedIn Members, including through native advertising (Sponsored Updates), messages (Sponsored InMails), text ads, and dynamic banner ads. LinkedIn Learning offers online educational courses and programs for teams and individuals to build new skills.

### ***1.2.2. What Member Personal Data Are Collected To Provide Products And Services***

6. LinkedIn’s mission is to connect the world’s professionals to allow them to be more productive and successful. Central to this mission is LinkedIn’s commitment to its Members to be transparent about the data LinkedIn collects, how this data is used, and with whom this data is shared. These topics are covered in detail in LinkedIn’s Privacy Policy.<sup>3</sup>
7. LinkedIn collects Member Personal Data from several sources to offer its products and services, including data (i) provided by Members themselves and (ii) generated through Member use of LinkedIn’s products and services.
8. **Data provided by Members.** Members provide data to LinkedIn through LinkedIn’s account registration process, including a Member’s name, email address, mobile number, and account password. Members may additionally provide information when filling in or updating their profiles, such as information about their education, work experience, skills, or endorsements. Members may also provide data when posting to the Feed or uploading content to LinkedIn, including when a Member fills out a form, responds to a survey, submits a resume, or fills out a job application.
9. **Data generated by Member product or service use.** LinkedIn collects Member product and service usage data when Members visit or otherwise use LinkedIn services, including its sites, app and platform technology, such as when Members view or click on content (e.g., learning video) or ads usage and activity data from Members who are Customer seat holders of Jobs, LMS, and Learning. In addition, LinkedIn may use login credentials, cookies (and similar technologies), or device information to identify Members.

### ***1.2.3. How Member Personal Data Is Used To Provide Products And Services***

10. As explained below, LinkedIn uses Member Personal Data to help Members connect, stay informed, explore their career opportunities, and be more productive. How LinkedIn uses Member Personal Data will depend on which services or products the Member uses, how Members use those services or products, and the choices Members make in their settings.
11. LinkedIn uses Member Personal Data to provide and personalize its services, including

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<sup>3</sup> See <https://www.linkedin.com/legal/privacy-policy>.

with the help of automated systems and inferences it makes, so that LinkedIn services (including ads) can be more relevant and useful to Members. In general, LinkedIn uses Member Personal Data to help Members connect with others, stay informed, find and be found for work and business opportunities, get training and be more productive, and receive relevant ads and marketing of LinkedIn products and services that Members may be interested in.

**2. INFORMATION ABOUT CONSUMER PROFILING TECHNIQUES**

12. Below, LinkedIn describes its consumer Profiling techniques, as required by Article 15 of the DMA. The following description and information provided is valid as of 6 January 2024.

**2.1. Specific Purposes Pursued By Profiling Techniques**

*a) the specific purpose(s) pursued by each profiling technique(s);*

13. Broadly speaking, LinkedIn uses consumer Profiling techniques for four main purposes: (i) personalize Members’ experience on the LinkedIn platform by understanding their goals and interests; (ii) deliver relevant advertising to Members; (iii) provide features to Customers in LinkedIn subscription services; and (iv) promote LinkedIn subscription services to Members. To expand on what these purposes mean in practice:

14. **Personalizing Members’ experience on LinkedIn.** LinkedIn strives to help each Member get the most out of the time they spend on the social networking platform by seeking to show the most relevant content and make relevant recommendations, whether that means showing professionally-relevant content in the Feed, surfacing jobs, people, organizations or groups that a Member might be interested in, or suggesting actions that a Member may wish to take to advance their professional opportunities. In this way, consumer Profiling techniques relating to Member interests, goals, career status, skills, activity, and more, are used with the goal of advancing LinkedIn’s mission (*i.e.*, to connect the world’s professionals to make them more productive and successful) and its vision (*i.e.*, to create economic opportunity for every Member of the global workforce). Specific Profiling techniques used for this purpose (as defined and described below) are: Inferring Personal Characteristics about Members, Inferring Member Career and Activity Related Attributes, Inferring Member Skills, Inferring Member Interests, Knowledgeable Members to Ask, and Expert Contributors.

15. **Providing relevant advertising to LinkedIn Members.** Together with its professional online social networking service, LinkedIn offers a B2B-focused online advertising service (LMS) that seeks to deliver the right ads to the right audiences of Members, for the benefit of both LinkedIn’s Members and its LMS Customers. To help ensure that Members engage with relevant advertising, LinkedIn organizes segments and other advertising audience criteria, some of which leverage Profiling techniques described below, including Advertising Segments, Inferring Personal Characteristics about Members, and Inferring Member Interests.

16. **Providing features in LinkedIn subscription services.** LinkedIn provides subscription-based services that offer additional tools and insights, including enhanced search and project management tools. Among the features provided in LinkedIn’s subscription services are search and recommendation modules that leverage Profiling techniques to help subscribers identify relevant LinkedIn Members (such as a relevant potential candidate for a Member using LinkedIn’s Recruiter subscription services), or to evaluate subscriber seat-holder platform activity to help Sales Navigator Customers get the most of their subscriptions. Profiling techniques used for this purpose (described below) include Potentially Active Job Seekers, Talent, or Hirers; Potential Customers for Products or Services; and Social Selling Index.
  
17. **Promoting subscription services to Members.** LinkedIn seeks to promote the most relevant Premium subscription services (such as subscriptions with tools and insights geared toward job seekers, or to business leaders, or to those focused on learning opportunities) to the right audiences of Members. To ensure relevant promotions, LinkedIn organizes Member audiences based on Member intents, including the use of the Potential Interest in LinkedIn Premium Subscriptions Profiling technique, described below.

**Table 1. Consumer Profiling Techniques**

Technique	Use Description & Purpose
<p>Inferring Personal Characteristics About Members</p>	<p>LinkedIn creates inferences about its Members that are used to personalize a Member’s experience on LinkedIn and provide recommended content, jobs, and ads on LinkedIn.</p> <p>Here, the Profiling technique is the method by which LinkedIn uses Member Personal Data, including Member profile data and activity data, to draw conclusions about a Member’s characteristics on LinkedIn.</p> <p>For example, based on profile data, LinkedIn may infer the likely age, gender, or spoken language preference of a Member.</p>
<p>Inferring Member Career and Activity Related Attributes</p>	<p>As noted above, LinkedIn creates inferences about its Members that are used to personalize their experience on LinkedIn and provide recommended content, jobs, and ads on LinkedIn.</p> <p>Here, the Profiling technique is the method by which LinkedIn uses Member profile data and Member activity data to draw conclusions about a Member’s career intentions and potential interactions with various facets of the LinkedIn CPS.</p> <p>For example, based on Member profile data and Member activity on the platform, LinkedIn may infer that a Member may be a people manager. Likewise, based on Member activity, LinkedIn may infer that a Member would be likely to watch video content on LinkedIn’s Feed.</p>

Technique	Use Description & Purpose
<p>Inferring Member Skills</p>	<p>As part of LinkedIn’s “skills-first” approach to the labor market, understanding and correctly interpreting a Member’s relevant skills is key to recommending relevant content, job opportunities and ads to Members. In addition to the skills Members explicitly add to the skills section of their profiles, LinkedIn derives Implicit Skills and infers skills about its Members to serve this skills-first approach.</p> <p>These inferred or Implicit Skills are derived from information in the Member’s profile or based on their connections. Implicit Skills are skills that are not directly mentioned in the “Skills” segment of a Member's profile but can be derived based on information provided in a Member’s profile. For example, if a Member writes on their profile, “I have 20 years of experience with legal research,” LinkedIn may derive that they have the implicit skill “Legal Research.” Similarly, if a member has many connections with the skill “Legal Research,” LinkedIn may infer that it is more likely that the member also is skilled in Legal Research even if it is not explicitly or implicitly on their profile.</p> <p>These Implicit Skills are not displayed in a Member’s profile unless the Member takes action to add them (<i>i.e.</i>, LinkedIn doesn’t edit Member profiles); instead, Implicit Skills are stored as inferences which LinkedIn then uses to surface recommendations to the Member and to suggest to other Members or recruiters that the Member may have that inferred skill.</p>
<p>Inferring Member Interests</p>	<p>Member interests are a subset of inferences that LinkedIn makes about its Members, based on their activity on the LinkedIn online social networking CPS.</p> <p>LinkedIn’s Interest Graph maps relationships between Members and a standardized set of interests. Here, the Profiling technique is the method by which Interest Graph derives Member-interest affinity scoring, including, for example, assessing the content of posts viewed, duration of view, or whether a Member expanded a post to see more of it.</p> <p>For example, the Interest Graph may infer that a Member has an interest in Electric Vehicles or in Intellectual Property. Such inferred interests can then be used by LinkedIn’s Feed relevancy models to show the Member relevant content.</p>

Technique	Use Description & Purpose
<p>Knowledgeable Members to Ask</p>	<p>On LinkedIn product pages, LinkedIn may recommend “Helpful People”, that is, other Members in the page-viewing Member’s network who are skilled in the product or work at a company or in a role that uses the product.</p> <p>Here, the Profiling technique is the process of identifying “helpful people,” or knowledgeable Members to ask about a given product, based on a Member’s profile data, including their work experience, and skills. To identify what products a company may use, LinkedIn uses data such as survey responses collected from Members who work at that company, as well as skills data from Members who work at that company. LinkedIn uses this data to list Members who may have knowledge about a specific product so that the viewing Member can ask them about their experience or knowledge.</p>
<p>Expert Contributors</p>	<p>Expert Contributors are Members that may be highly knowledgeable or experienced in a certain topic or field, who LinkedIn might invite to contribute to collaborative articles on LinkedIn. Here, the Profiling technique is the method of designating a Member as a potential “expert.”</p> <p>To designate someone as a potential “expert,” the model evaluates Explicit Skills listed in a Member’s profile, how active the Member is on LinkedIn, and skill proficiency. This evaluation may result in a designation that the Member may be an “expert” in a given field or skill.</p>
<p>Advertising Segments</p>	<p>LinkedIn enables LMS Customers to direct advertising campaigns to relevant audiences among LinkedIn’s Members. LinkedIn infers or derives certain characteristics of Members based on their profile and account data and their activity on LinkedIn. For example, based on a Member’s profile data, including their work and education history, a Member may be placed in the “upwardly mobile” segment, indicating that a Member was recently promoted to a senior level or recently obtained an advanced degree. Here, the Profiling technique is the method by which LinkedIn draws inferences to place Members into custom advertising segments.</p>

Technique	Use Description & Purpose
<p>Potentially Active Job Seekers, Talent, or Hirers</p>	<p>LinkedIn calculates a score to classify how active a Member is in their job search, which is used to personalize the Member’s LinkedIn experience and to identify potentially urgent and highly active job seekers to recruiters in Recruiter. Here, the Profiling technique is the method by which LinkedIn creates a Member’s Job Seeker Score. To make this determination, LinkedIn evaluates data relevant to a Members’ job seeking, including the level of activity a Member has within the Jobs service (<i>e.g.</i>, number of jobs viewed, clicked on and applied to in the past week), LinkedIn activity data (<i>e.g.</i>, the number of new connections made), as well as whether the Member has activated their “Open to Work” banner in their profile.</p> <p>Active Talent Spotlight is a filter which identifies candidates among Recruiter search results who are “active talent,” meaning they are potentially more likely to respond and engage with recruiters on LinkedIn. The Active Talent Spotlight appears in two interfaces: (1) LinkedIn Recruiter, which is a paid product for talent professionals (<i>e.g.</i>, recruiters) to help source, engage with, and manage candidates for jobs at their company, and (2) applicant management, which is a feature for enterprise Customers of LinkedIn’s Jobs product that displays candidates who have applied to jobs, if the job is set to collect applications on LinkedIn. Here, the Profiling technique is the method by which LinkedIn determines how likely a member is to be active talent. LinkedIn uses Member activity data and Member profile data to make a determination as to how likely a Member is to be active talent, including whether a Member updated certain fields of their LinkedIn profile within the last three months, whether a Member chose to share resume data with recruiters, and whether a Member works at an organization with recent layoffs.</p> <p>LinkedIn also assesses whether a Member is a Potentially Active Hirer on the platform, (<i>i.e.</i>, whether a Member is actively hiring on a given day). The Profiling technique to determine whether a Member is a Potentially Active Hirer uses a model that evaluates Member behavior relating to hiring, such as posting jobs on LinkedIn’s Feed, engaging with Pages in LinkedIn’s job posting experience, or adding the “hiring” badge to the Member’s profile photo.</p>



Technique	Use Description & Purpose
Potential Customers for Products or Services	<p>Sales Navigator is a social selling tool that allows sales professionals to identify and connect with potential Customers. Within Sales Navigator, LinkedIn seeks to highlight potential Customers or leads. Here, the Profiling technique is how LinkedIn identifies potential Customers or leads, based on inputs provided by the Member (Member profile data), or data collected through the Member’s use of the LinkedIn platform (Member activity data).</p> <p>Data inputs include signals such as a Member’s profile data, level of activity responding to InMail messages and engaging with LinkedIn ads concerning a particular category of products or services.</p>
Social Selling Index (SSI)	<p>As noted above, Sales Navigator is a social selling tool that allows sales professionals to identify and connect with potential Customers on LinkedIn. To help Members (who may use Sales Navigator in the course of their job) get the most from their use of LinkedIn services, LinkedIn evaluates the Member’s “social selling” activity, a score that is based on their level of activity on the LinkedIn platform. Here, the Profiling technique is the method of calculating a Member’s Social Selling Index Score. LinkedIn processes Member profile data and Member activity data, and connections data on LinkedIn, to evaluate a Member’s establishment of their professional brand, ability to find the right people to connect with, engagement with insights, and ability to build relationships, which is reflected in a Member’s Social Selling Index Score.</p>
Potential Interest in LinkedIn Premium Subscriptions	<p>LinkedIn uses Member Personal Data (Member profile data), and data collected through the Member’s use of the LinkedIn platform (Member activity data) to understand and predict if a Member is likely to be interested in purchasing a LinkedIn Premium subscription. Here, the Profiling technique is the method of determining if a Member may be interested in purchasing a LinkedIn subscription. LinkedIn may use this determination, for example, to serve a LinkedIn Member who does not have a Premium subscription with a promotional offer to upgrade.</p>

Source: LinkedIn

**2.2. Categories Of Personal Data And Data Derived From User Activity**

*b) a description of each category of personal data and data derived from user activity (in particular, distinguish data and personal data categories actively provided by consumers<sup>4</sup> from observed data<sup>5</sup>) and sources (e.g., first or third party service) for each of these categories of data and a description of personal data processed for profiling consumers applied to or across the designated core platform services (in particular, distinguish data and personal data originating from each of the gatekeeper’s services);*

18. The below table is a list of the categories of Personal Data, both provided by the member and derived from member activity, processed by the Profiling techniques listed above.

**Table 2. Categories Of Personal Data And Data Derived From User Activity**

Category	Provided / Observed	Data Source
<p>Member Profile Data: information provided by a Member on their LinkedIn profile, including:</p> <ul style="list-style-type: none"> <li>• Name</li> <li>• Profile Photo                             <ul style="list-style-type: none"> <li>○ Optional Banners: A Member can choose one of two banners to decorate their profile photo, to either signal that they’re actively hiring (Hiring) or that they’re actively seeking new job opportunities on LinkedIn (Open to Work).</li> </ul> </li> <li>• Geographic Location: A Member inputs their professional profile location by selecting a country/region and depending on that selection, the Member will be given the option to add city/district and/or postal code.</li> <li>• Job Seeker Intent: A LinkedIn Member can indicate their job seeker intent during their “onboarding” experience, when they first sign up</li> </ul>	<p>Provided</p>	<p>LinkedIn Online Social Networking Service</p>

<sup>4</sup> For example, profile information (e.g., age, sex, location, and other) provided by consumers through any core platform service, or provided through any other service of gatekeeper, when this data is combined or cross-used with that of a core platform service.

<sup>5</sup> Observed data are understood as data provided by the consumer by virtue of using a service or device. For example, data related to, or derived from, the activity of the consumer on the gatekeeper’s core platform services or other services (e.g., the content that a user has consulted, shared, or liked) as well as data related to, or derived from, the use of devices on which the gatekeepers’ core platform services or services are provided (e.g., GPS location).

Category	Provided / Observed	Data Source
<p>to LinkedIn.</p> <ul style="list-style-type: none"> <li>• <b>Headline:</b> A Member can add their professional headline as text (up to 220 characters) below their name in the introduction section on their LinkedIn profile.</li> <li>• <b>About Section:</b> A Member can provide a summary of their professional identity in up to 2,600 characters.</li> <li>• <b>Experience:</b> A Member can input their work experience including current and previous employers, dates of employment, job titles, job responsibilities, and accomplishments.</li> <li>• <b>Standardization:</b> If data entered by the Member can be standardized, LinkedIn computes the standardized attributes (<i>e.g.</i>, job function, job title, and job seniority based on Member-input in their profile). For example, the job title of “SEO consultant” would be standardized to be “Search Engine Optimization consultant” on the backend to enable a Member to be found when someone searches for “search engine optimization consultant.”</li> <li>• <b>Education:</b> A Member can input their current and previous education experiences, including school attended, degree obtained, awards, and recognition.</li> <li>• <b>Skills (Member provided):</b> A Member can add skills to their profile and can also choose to associate those skills with a specific job title. A Member may have also received endorsements for skills from other Members. LinkedIn can also infer a Member’s skills based on other information the Member has provided.</li> <li>• <b>Additional Expertise:</b> A Member can input industry licenses and certifications earned, projects completed, LinkedIn Learning or other courses taken by that Member, and recommendations the Member received from other LinkedIn Members.</li> </ul>		

Category	Provided / Observed	Data Source
<ul style="list-style-type: none"> <li>• Additional Involvement: A Member can input additional professional involvement, including volunteer experience, publications, patents, honors and awards, test scores, languages spoken, organizations, and causes.</li> <li>• Interests (Member provided): A Member can choose to follow companies, schools, and people on LinkedIn, join topical groups of interest, and subscribe to newsletters, which are shown as part of the Member’s profile.</li> <li>• Connections List: A Member uses LinkedIn to connect to other LinkedIn members to build a professional network, which is part of their professional identity.</li> </ul>		
<p>Activity Data: interactions (<i>e.g.</i>, clicks, viewing data) with LinkedIn’s services, including:</p> <ul style="list-style-type: none"> <li>• Member Feed Actions: clicks, likes, comments on LinkedIn’s Feed.</li> <li>• Member Feed Impressions with a Particular Topic: how often a Member interacts with content associated with a particular topic on the LinkedIn Feed.</li> <li>• Member Hashtag or Interest Follows: what topics a Member has followed on LinkedIn.</li> <li>• Post Viewing Data: related to how a Member interacts with a particular post (<i>i.e.</i>, how long does a Member dwell on a particular post, if a Member clicks “see more,” hides, or bookmarks a post).</li> <li>• Member Messaging Activity: how often a member sends LinkedIn Messages or InMails and response rate.</li> <li>• Article Activity: how often Members publish Articles on LinkedIn.</li> <li>• Group Activity: engagement within Groups (joining and posting, sharing content within Groups).</li> </ul>	Observed	LinkedIn Online Social Networking Service

Category	Provided / Observed	Data Source
<ul style="list-style-type: none"> <li>• Page Activity: liking, following, or engaging with a Page on LinkedIn.</li> <li>• Search history on LinkedIn and Sales Navigator.</li> <li>• Lead Activity in Sales Navigator: searching and saving leads or accounts in Sales Navigator.</li> <li>• Subscription Offer Impressions: how many times a Member saw a Premium Subscription offer.</li> <li>• Activity Metrics: Data gathered based on how frequently a Member logs in to LinkedIn (<i>e.g.</i>, Monthly Active User or Weekly Active User).</li> </ul>		
<p>Connections Data: data about a Member’s relationships on LinkedIn, including the acceptance rate of connection requests.</p>	Observed	LinkedIn Online Social Networking Service
<p>Geolocation Data: generalized location information (<i>e.g.</i>, city-level location) about a Member, on the basis of their IP address.</p>	Observed	LinkedIn Online Social Networking Service
<p>Device and Browser Information: information about the device and browser a Member uses to access LinkedIn, including:</p> <ul style="list-style-type: none"> <li>• Browser Type: what browser a Member uses to access LinkedIn (<i>e.g.</i>, Edge).</li> <li>• Connectivity Status: whether the device accessing LinkedIn is using a Wi-Fi network or cellular network to connect to the Internet.</li> <li>• Battery Life: what the battery life of the device is while accessing LinkedIn.</li> <li>• Operating System Type: what operating system and version a Member uses to access LinkedIn (<i>i.e.</i>, iOS or Android).</li> </ul>	Observed	LinkedIn Online Social Networking Service
<p>Member Feedback: Member-provided feedback via solicited survey responses.</p>	Provided	LinkedIn Online Social Networking Service

Category	Provided / Observed	Data Source
Learning Activity Data: Member activity data on LinkedIn Learning, including a Member’s learning page views and number of hours watched of learning content.	Observed	LinkedIn Learning
Jobs Activity Data: Job-related activity data, including viewing, saving, and applying to jobs on LinkedIn Jobs.	Observed	LinkedIn Jobs
Advertising Activity Data: Member activity data related to interactions with first-party advertisements on LinkedIn (i.e., clicks, views of advertisements on LinkedIn).	Observed	LMS

Source: LinkedIn

**2.3. Description Of Categories Of Personal Data And Data Originating From Third Parties**

*c) a description of each category of personal data and data originating from third parties (in particular, distinguishing data and personal data originating from third parties, such as advertisers, publishers, developers, or others) and/or derived from user activity on third parties’ services (in particular, distinguishing data and personal data categories actively provided by consumers from observed data and inferred data originating from third parties);*

19. This section is not applicable to LinkedIn. LinkedIn does not use any Personal Data or data originating from Third Parties for the above listed Profiling techniques.

**2.4. Description Of Inferred Data About Consumers**

*d) a detailed description of the inferred data<sup>6</sup> about consumers derived from the processing of the data and personal data listed in point (b) and/or (c) as well as an explanation of how such derived or inferred data were created;*

Specific Inference Categories

20. Using the Profiling techniques described above, LinkedIn creates the following types of inferences:

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<sup>6</sup> Inferred data are understood as data derived by the gatekeeper from the processing of observed data or data actively provided by the consumer. For example, consumers’ interests or socio-economic status. Further guidance on the distinction between provided data, observed data and inferred data, can be found in the European Data Protection Board’s Guidelines on the targeting of social media users.

**Inferred interests:** inferences about a Member’s interests in a certain topic, industry, or product (*e.g.*, interest in EV vehicles, or an interest in a given product category like SaaS offerings).

**Inferred personal characteristics:** inferences about a Member’s personal traits, such as a Member’s inferred age and gender (*e.g.*, if a Member is 25 years old).

**Career and job-related inferences:** inferences about a Member’s career history, expertise, job search and hiring-related activity, or if a Member uses a certain product related to their role (*e.g.*, if a Member appears to be a freelancer, or if a Member may be actively hiring for a role).

**LinkedIn activity inferences:** inferences about a Member’s likely or predicted actions on LinkedIn (*e.g.*, likelihood to watch certain content on LinkedIn or to post and share content on LinkedIn).

**Product and subscription-related inferences:** inferences related to and used by LinkedIn’s subscription offerings (LinkedIn Talent Services, LinkedIn Learning Service, LinkedIn Marketing Solutions, LinkedIn Sales Solutions, and LinkedIn Premium) (*e.g.*, predicting if a Member is likely to be a “decision maker” for IT purchases, or if a Member is likely to buy a LinkedIn Premium subscription).

21. For a description of how the inferred data related to Profiling techniques are created, please see **Table 1** in **Section 2.1**.

**2.5. Retention Duration Of Provided, Observed, And Inferred Data**

*e) the retention duration of each category of data and personal data listed in points (b), (c), and (d), or duration of retention of the profile itself;*

22. LinkedIn maintains Member Personal Data for as long as the Member keeps their account open or as is needed to provide services to the Member, unless the Member specifically requests that LinkedIn delete certain data. If a Member chooses to close their account, automatic scripts delete Member Personal Data within 30 days of the request, unless it is reasonably necessary for LinkedIn to retain certain Personal Data beyond thirty days to comply with our legal obligations (including law enforcement requests), meet regulatory requirements, resolve disputes, maintain security, prevent fraud and abuse (*e.g.*, if we have restricted the Member’s account for breach of our Professional Community Policies), enforce our User Agreement, or fulfill the Member’s request to “unsubscribe” from further messages from us.
23. Inferences about Members are treated as Member Personal Data and thus are retained for as long as a Member account is open, unless the Member requests specific deletion of an inference, a certain inference is deprecated by the inference owner team, or an inference is overwritten by a new inference of the same type.

## 2.6. Legal Ground For Each Purpose Of Profiling Consumers

*f) the legal ground relied on by the gatekeeper under Article 6(1) and, where applicable, Article 9(2) of Regulation (EU) 2016/679. The reporting under the present point should distinguish the legal ground relied on under Regulation (EU) 2016/679 for the processing of personal data collected directly by the gatekeeper from the legal ground relied on for the processing of personal data originating from third parties;*

**Table 3. Profiling Techniques And Relevant Legal Ground**

<b>Profiling Technique</b>	<b>Legal Ground Under GDPR Article 6(1)</b>
Inferring Personal Characteristics About Members	Legitimate Interest
Inferring Member Career and Activity Related Attributes	Legitimate Interest
Inferring Member Interests	Legitimate Interest
Knowledgeable Members to Ask	Legitimate Interest
Inferring Member Skills	Legitimate Interest
Expert Contributors	Legitimate Interest
Advertising Segments	Legitimate Interest
Potentially Active Talent, Job Seekers, or Hirers	Legitimate Interest
Potential Customers for Products or Services	Legitimate Interest
Social Selling Index	Legitimate Interest
Potential Interest in LinkedIn Subscriptions	Legitimate Interest

*Source: LinkedIn*

24. Additionally, LinkedIn does not process sensitive Personal Data (as defined by Article 9 of the GDPR) for the purpose of these Profiling techniques.



## 2.7. Consent Requirements For Each Profiling Technique

*g) whether consent is required under Article 5(2) of Regulation (EU) 2022/1925 for the processing of data and personal data listed in points (b), (c) and (d) for each purpose of profiling consumers. The reporting under the present point should distinguish between consent under points (a) to (d) of Article 5(2) of Regulation (EU) 2022/1925. In addition, if consent is not required, the reporting under the present point should provide an explanation;*

25. As of 6 January 2024, in connection with some of the Profiling techniques described above, LinkedIn combined Personal Data from the LinkedIn online social networking service CPS and LinkedIn Marketing Services, Jobs and Learning Services. As of 6 January 2024, Consent is not required under Article 5(2) of the DMA for the processing of data and Personal Data listed in points (b), (c) and (d) for each purpose of Profiling consumers. Further, Consent is not required under points (a) to (d) of Article 5(2) of the DMA prior to the compliance deadline of 7 March 2024.

## 2.8. Additional Specifics Regarding Consent

*h) where consumer consent is required for the given purpose and obtained by the gatekeeper under Regulation (EU) 2016/679, Directive 2002/58/EC and/or Regulation (EU) 2022/1925, a description of any steps taken to seek such consent to profiling, including visual representations (click-by-click) on how consumers can refuse or withdraw consent, any consequences of such refusal or withdrawal, and how any such consequences are notified to the consumer<sup>7</sup>;*

26. This section is not applicable to LinkedIn, please see response to **Section 2.7** above for an explanation as to why Consent is not required as of 6 January 2024.

## 2.9. Consent Obtained By Third Parties

*i) where consumer consent is required for the given purpose and obtained by third parties (e.g., as required under Article 5(2)(a) of Regulation (EU) 2022/1925), a description of any steps taken to seek consent to the sharing of personal data with the gatekeeper for the purpose of profiling, including visual representations (click- by-click) on how consumers can refuse or withdraw consent, and how the gatekeeper ensures respect of consumer's consent refusal or withdrawal<sup>8</sup>;*

27. LinkedIn does not obtain Consent by Third Parties for the above-mentioned Profiling techniques.

<sup>7</sup> It should be clear from the description what measures (e.g., in design) the gatekeeper takes to guarantee a neutral presentation of choices to the end user, and the level of facility or ease (e.g., how many clicks) for an end user to refuse or change their consent. The consequences of such refusal or withdrawal should also be clear from the description.

<sup>8</sup> The gatekeeper should refer to a consent framework to which it adheres.

**2.10. Whether Automated Decision-Making Takes Place On The Basis Of An Applied Profiling Technique**

*j) whether automated decision-making takes place on the basis of an applied profiling technique, the number and object of such automated decisions, the legal effects and other similarly significant effects<sup>9</sup> that that the automated- decision making mechanism is producing or may produce, and a description of the algorithms underpinning the automated decision mechanism;*

28. LinkedIn does not perform any Automated Decision-Making, which means decisions based solely on automated processing that produce legal or similarly significant effects as referred to in Articles 22(1) and 22(4) of the GDPR. The above-listed Profiling techniques do not produce legal or similarly significant effects for end users, and LinkedIn does take automated actions based on the above listed Profiling techniques. The models listed below act as downstream consumers of the signals created by Profiling techniques, and result in the following types of actions.

**Table 4. Automated Actions Based On Above-Listed Profiling Techniques**

Action	Based on What Technique(s)	Further Detail / How the Models Work
Recommending People	Inferring Personal Characteristics About Members, Inferring Member Interests, Potentially Active Job Seekers, Talent, or Hirers	<p>Here, the automated actions are:</p> <ul style="list-style-type: none"> <li>• Determining who LinkedIn recommends to Members (as potential connections, people to follow, or Members to ask) and to Customers (as potentially active job seekers); and</li> <li>• Determining how those recommendations appear in a Member’s Feed or other surfaces (<i>i.e.</i>, how Members are prioritized within a list of recommended connections).</li> </ul> <p><u>People You May Know (“PYMK”) model:</u> <sup>10</sup> recommends other Members to consider connecting with or following. Based on Profiling technique outputs, like personal characteristic inferences, Member interests, and job seeker score, along with Member profile data and information about the Member’s existing network (including, Member geographic region, proximity to</p>

<sup>9</sup> A decision produces legal effects when the subject’s legal rights are impacted. This could include, for example, any resulting effect on the right to vote, their ability to take out a loan, and their position in e-recruitment.

<sup>10</sup> In certain cases, references to a “model” may include several related models that are used for accomplishing the same purpose.

Action	Based on What Technique(s)	Further Detail / How the Models Work
		<p>other connections), the model suggests potential connections to Members.</p> <p><u>Follows</u>: The Follows model recommends other Members, companies, events to a Member, based on Profiling technique outputs like personal characteristic inferences and job seeking score, along with Member profile information, Feed activity (who a Member is currently following, who his or her connections currently follow).</p>
<p>Recommending Actions to Take on LinkedIn</p>	<p>Inferring Personal Characteristics About Members, Inferring Member Career and Activity Related Attributes, Inferring Member Skills, Inferring Member Interests, Potentially Active Job Seekers, Talent, or Hirers</p>	<p>Here, the model recommends what action a Member should take next on LinkedIn.</p> <p>[CONFIDENTIAL].</p>
<p>Recommending Relevant Content on LinkedIn</p>	<p>Inferring Member Interests, Inferring Personal Characteristics About Members, Inferring Member Career and Activity Related Attributes, Inferring Member Skills</p>	<p>Here, the automated actions are determining:</p> <ul style="list-style-type: none"> <li>• What content to show Members in Feed;</li> <li>• What Groups, Pages, and events to recommend to Members;</li> <li>• What LinkedIn Learning courses to recommend to Members; and</li> <li>• What search results may be relevant to Members.</li> </ul> <p><u>What content to show in Feed (Feed relevancy)</u>: Feed relevancy consists of a family of models that work together to populate a Member’s Feed with relevant content. These models use data like a Member’s geographic location, a Member’s connections, and inputs from Profiling techniques (including inferences that a Member may be a job seeker or may have an interest in a particular topic), to rank and display content in a Member’s Feed. These models work together to perform scenario-specific or point-in-time matching to dynamically sort and rank content within LinkedIn’s Feed.</p>

Action	Based on What Technique(s)	Further Detail / How the Models Work
		<p><u>What groups to recommend:</u> Groups You Might be Interested In (“GYMBII”) uses Profiling technique outputs including Member skills, along with Member profile data, including Member-selected industry, education attainment, company and other standardized data inputs to recommend groups for a Member to join or view.</p> <p><u>What Pages to recommend:</u> Page Recommender recommends relevant Pages for a Member to follow, based on inferred Member interests and personal characteristics, as well as the Member’s profile and activity data, including what Pages the Member currently follows, what Pages the Member’s connections follow and other standardized Member Personal Data including Member industry, role, and company.</p> <p><u>What events to recommend:</u> Event Recommender is a model that uses Profiling technique outputs including Member interests, along with Member profile and activity data (past event history) to match and suggest events that a Member may be also interested in attending.</p> <p><u>What LinkedIn Learning courses to recommend:</u> Recommends LinkedIn Learning courses to a LinkedIn Learning user, based on Profiling technique outputs including Member skills, along with learning activity data (e.g., previous learning courses taken).</p> <p><u>Deliver relevant search results:</u> These models use Profiling technique outputs like a Member’s job seeker score, and personal characteristic inferences like inferred language as model features to rank and prioritize relevant search results for Members.</p>
<p>Recommending Jobs-Related Actions or Insights</p>	<p>Potentially Active Job Seekers, Talent, or Hirers, Inferring Member Skills</p>	<p>Here, the automated actions are:</p> <ul style="list-style-type: none"> <li>• What jobs are recommended to Members; and</li> <li>• What job seekers are shown and how they are displayed within LinkedIn Recruiter search results to recruiters.</li> </ul> <p>Jobs You Might Be Interested In (“JYMBII”) is a relevancy model that displays job postings to a Member in the Feed or on the Jobs Tab. The model uses Profiling technique outputs like job seeker score, and inferred</p>

Action	Based on What Technique(s)	Further Detail / How the Models Work
		<p>skills, along with Member profile data (including skills, company, title and standardized data like seniority), activity data (Member recent job searches on LinkedIn, set job alerts on LinkedIn), to determine open job postings that may be most relevant to the individual Member and then display those postings to the Member in their Feed or on the Jobs Tab.</p> <p><u>Recruiter Search relevancy</u>: LinkedIn Recruiter Search is a model-powered tool within LinkedIn that provides relevant search results to hirers seeking potential job candidates. Recruiter Search enables recruiters to search for potential candidates using Member profile attributes. If a Recruiter user has an open job posting, the tool can also provide information about Members who match relevant characteristics identified in the job posting. These results are based on assessing Profiling techniques outputs, like Member skills, along with their Member profile data and activity on LinkedIn (e.g., work experience, title, seniority), against requirements included in the job listing (e.g., must have 5+ years of experience in the relevant industry).</p> <p><u>Recommended Matches</u>: Recommended Matches is a model-powered feature in LinkedIn Recruiter that shows potential candidates that are similar to Members that a Recruiter Customer has recently viewed in Recruiter Search. Recommended Matches uses outputs of Profiling techniques such as job seeker score, along with Member Personal Data and activity data to find Members that are like other Members that a Recruiter has recently viewed and display them on a search results page.</p>
When to Send Members a Notification	Inferring Member Career and Activity Related Attributes, Potentially Active Job Seekers, Talent, or Hirers, Inferring Member Skills	<p>Here, the automated actions relate to how LinkedIn presents relevant notifications to its Members, specifically:</p> <ul style="list-style-type: none"> <li>• What channel notifications are presented in (email, push, in-app notifications);</li> <li>• Content of notifications (email headings, subject lines);</li> <li>• How the notifications are ranked within the notification channels; and</li> </ul>

Action	Based on What Technique(s)	Further Detail / How the Models Work
		<ul style="list-style-type: none"> <li>• What Members get the notifications.</li> </ul> <p>These notification models predict the likelihood that a Member will click on or engage with a notification, based on Profiling technique outputs including a Member’s Job Seeker Score, skills, and activity inferences, as well as Member profile data (e.g., education, connections) and activity data, such as previous ad interactions.</p> <p><u>What Channel: Channel Engagement Model:</u> This model predicts what a Member’s marketing channel is (email, in- app notification, push notification) and the likelihood of engaging with each notification, based on Profiling techniques including Member skills along with Member profile data and activity data.</p> <p><u>What Content:</u> These copy models personalize email subject and copy based on Profiling technique outputs like activity inferences and Member Personal Data, such as profile and Member activity data.</p> <p><u>Re-ranked within Channel:</u> These re-ranking models prioritize notifications shown to Members in the in-app notification tab, based on Profiling technique outputs like Job Seeker Score along with Member activity data.</p> <p>[CONFIDENTIAL].</p>
Determining Copy of LinkedIn Subscription Offers	Potential Interest in LinkedIn Premium Subscriptions	<p>Here, the automated action is:</p> <ul style="list-style-type: none"> <li>• Determining what copy is used in a LinkedIn Premium Subscription Offer.</li> </ul> <p>[CONFIDENTIAL].</p>

Source: LinkedIn

**2.11. Qualitative And Quantitative Impact Or Importance Of The Profiling Techniques**

*k) qualitative and quantitative impact or importance of the profiling techniques in question for the services and business operations of the gatekeeper. Under this point, please also include information on the number of end users exposed to each profiling technique per year, and the number of business users using the gatekeeper’s services based on profiling*

*per year, within the core platform service and, where relevant, across multiple core platform services;*

29. These Profiling techniques have a qualitative impact for LinkedIn's interest in:
- the establishment and conduct of LinkedIn's business;
  - provision of LinkedIn's services;
  - enabling and assisting LinkedIn Members and Customers to:
    - access and provide services;
    - assemble and associate;
    - express themselves, including imparting and receiving information;
    - educate themselves;
    - choose an occupation, engage in and move for work; and
    - establish and conduct business.
30. LinkedIn does not track the quantitative impact of specific Profiling techniques. Instead, LinkedIn tracks the quantitative impact of new or updated features (which may or may not involve Profiling techniques) through engagement or financial metrics, including: daily, weekly, and monthly active user count; sessions rate (*i.e.*, how long does a Member spend on LinkedIn in a single session); and annual recurring revenue (*i.e.*, what is the revenue associated with subscription-based offerings).
31. End Users located in the EU may be exposed to the above-described Profiling techniques. For the 2023 fiscal year, there were approximately 134,000,000 End Users located in the EU, which represents the total number of registered members located in the EU.
32. Business Users of LinkedIn's online social networking service CPS include users of Company Pages, Recruiter, and Sales Navigator. The total number of third-party organizations that have a Company Page with at least one administrator account holder located in the EU and at least one administrator action during the 2023 fiscal year was [CONFIDENTIAL]. The total number of Recruiter and Sales Navigator users located in the EU for fiscal year 2023 was [CONFIDENTIAL]. Business Users of LinkedIn's Recruiter and Sales Navigator services may use those services based on certain consumer Profiling techniques.
33. Business Users of LinkedIn's online advertising service are users of LMS. The total number of LMS users for the 2023 fiscal year in the EU was [CONFIDENTIAL]. Business Users of LinkedIn's LMS service may use that service based on certain consumer Profiling techniques.

**2.12. Actions Taken To Effectively Enable Consumers To Be Aware That They Are Undergoing Profiling And The Relevant Use Of Such Profiling**

*l) actions taken to effectively enable consumers to be aware that they are undergoing profiling and the relevant use of such profiling;*

Legal Documents

34. Transparency regarding consumer Profiling techniques begins with LinkedIn’s User Agreement and Privacy Policy, which broadly describe how LinkedIn leverages such Profiling techniques and how these techniques may influence a Member’s experience on LinkedIn, such as creating personalized recommendations or surfacing relevant ads to a Member on LinkedIn. All Members are required to acknowledge and agree to each of these documents upon account creation, and the documents are also readily available to Members as they use LinkedIn. If LinkedIn makes material changes to its User Agreement or Privacy Policy, LinkedIn will provide notice through our Services, or by other means, to provide Members the opportunity to review the changes before they become effective.

Public-Facing Materials: Help Center Articles, In-Product Notices

35. Building upon the legal documents, LinkedIn provides additional detail about certain Profiling techniques through its online Help Center (*see* chart below). Help Center articles relating to these Profiling techniques explain what data and/or Personal Data is processed through a technique, how LinkedIn leverages that data to power a feature or product, and what choices a Member may have around the Profiling technique.
36. Additionally, LinkedIn discloses and provides granular control over certain Profiling techniques for Members through in-product notices and Member Settings. For example, Members can see in their Member settings what interests LinkedIn has inferred about them and opt out of targeted advertising based on those interests.

**Table 5. Profiling Techniques And Corresponding Publicly Available Links**

Profiling Technique	Links
Inferring Personal Characteristics About Members	<a href="#">Inferences Overview Help Center Article</a> <a href="#">How to request copy of inferences via data subject access request Help Center Article</a> <a href="#">Inferred Age or Gender on LinkedIn Help Center Article</a>
Inferring Member Career and Activity Related Attributes	<a href="#">Inferences Overview Help Center Article</a> <a href="#">How to request copy of inferences via data subject access request Help Center Article</a>



Profiling Technique	Links
Inferring Member Interests	<a href="#">Feed Overview Help Center Article</a> <a href="#">Member Interests and Traits Targeting Help Center Article</a> <a href="#">Member Settings: Interest Categories</a>
Knowledgeable Members to Ask	<a href="#">Ask people about a product on LinkedIn Help Center Article</a>
Inferring Member Skills	<a href="#">Inferences we make about you Help Center Article</a> <a href="#">Add key skill suggestions to your profile Help Center Article</a>
Expert Contributors	<a href="#">Collaborative articles FAQ Help Center Article</a> <a href="#">Add a contribution to a collaborative article Help Center Article</a> <a href="#">Collaborative Articles Overview Help Center Article</a>
Advertising Segments	<a href="#">Member Interest and Traits Targeting Help Center Article</a> <a href="#">Member Settings: Interest Categories</a> <a href="#">Targeting Options for LinkedIn Ads Help Center Article</a>
Potentially Active Talent, Job Seekers, or Hirers	<a href="#">Spotlights in Recruiter and Jobs Help Center Article</a>
Potential Customers for Products or Services	<a href="#">Sales Navigator Alerts Overview Help Center Article</a> <a href="#">Sales Navigator Inputs Help Center Article</a> <a href="#">Buyer Intent in Sales Navigator Help Center Article</a> <a href="#">Product Category Intent in Sales Navigator FAQ Help Center Article</a>
Social Selling Index (SSI)	<a href="#">How Sales Navigator SSI is Calculated Help Center Article</a>
Potential Interest in LinkedIn Subscriptions	<a href="#">Premium subscription offers you may see Help Center Article</a>

Source: LinkedIn

**2.13. Statistics On How Many Consumers Choose To Undergo Profiling Or Refuse It, If They Are Given A Choice**

*m) statistics on how many consumers choose to undergo profiling and how many refuse it, if such choice is given;*

37. LinkedIn interprets the terms “choose” and “choice” in this section to refer to the obtaining of Consent as a basis for data processing. Accordingly, this section is not applicable to LinkedIn because, as of 6 January 2024, LinkedIn does not rely on Consent as a legal basis nor otherwise obtain Consent for the processing associated with the Profiling techniques detailed in this report.

**2.14. Whether And When The Profiling Technique Has Been The Subject Of A Data Protection Impact Assessment And The Main Conclusions Thereof**

*n) whether and when the profiling technique has been the subject of a data protection impact assessment<sup>11</sup> and the main conclusions thereof;*

38. Data protection impact assessments (“DPIAs”) for the Profiling techniques detailed in **Section 2.1** were conducted on or before 6 January 2024. These DPIAs conclude that the processing is acceptable as LinkedIn has appropriate technical and organizational measures in place to significantly mitigate the potential impact on data subjects’ interests and fundamental rights.

**2.15. Any Alternative Measures To Profiling That Have Been Considered And The Reasons For Not Choosing Them**

*o) any alternative measures to profiling that have been considered and the reasons for not choosing them.<sup>12</sup>*

LinkedIn interprets “any” to not require a discussion of “all” alternative measures. As of 6 January 2024, LinkedIn uses Profiling techniques for four main purposes: (1) personalize Members’ experience on the LinkedIn platform by understanding their goals and interests; (2) deliver relevant advertising to LinkedIn Members; (3) provide features to Customers in LinkedIn subscription services; and (4) promote LinkedIn subscription services to Members. As of 6 January 2024, LinkedIn has considered various alternative measures to the above-mentioned Profiling techniques and makes use of those measures alongside its Profiling techniques. Where LinkedIn uses Profiling in lieu of or in addition to these and other alternatives, it is because LinkedIn has deemed it could not as effectively meet its Members’ and Customers’ expectations and goals through alternative means.

<sup>11</sup> A data controller must carry out a data protection impact assessment under Article 35 of Regulation (EU) 2016/679 in certain circumstances that may also involve profiling.

<sup>12</sup> Asking for alternatives to profiling allows an assessment of whether gatekeepers have considered less intrusive measures and is particularly informative in terms of accountability.